fkb Practice Tests

Grade 5 Maths

These tests are compiled from public domain resources mailny from state issued tests.

free kids Books

Maths Exams No Answers
Contents and Printing Guide

This page can be used for selecting material to print for students, note, document may be printed as a paper or electronic (pdf) copy using the page subsets below.

Want to find more great books like this one?

"Totally

free kids Books

-super!"

https://www.freekidsbooks.org
Simply great free books -
Preschool, early grades, picture books, learning to read,
early chapter books, middle grade, young adult,
Pratham, Book Dash, Mustardseed, Open Equal Free, and many more!
Always Free – Always will be!

Session 1—Math (No Calculator)

Write your answers for questions 1 through 30 in the spaces provided on page 34, session 1 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session, but do not work on any other session.

You may NOT use a calculator for this session.

---

1. Julia collects colored beads for craft projects. Of Julia's beads, $\frac{4}{9}$ are silver, $\frac{1}{5}$ are gold, and $\frac{1}{4}$ are blue. The rest of the beads are red. Which expression gives the **closest** estimate of the fraction of red beads Julia has?

   A. $1 - \frac{1}{2} - \frac{1}{2} - \frac{1}{2}$

   B. $1 - \frac{2}{3} - \frac{1}{3} - \frac{1}{3}$

   C. $1 - \frac{1}{4} - \frac{1}{4} - \frac{1}{4}$

   D. $1 - \frac{2}{5} - \frac{1}{5} - \frac{1}{5}$

2. There are 2,817 homes in the town of West Valley. Each home uses an average of 380 gallons of water each day. Use the expression below to find the total number of gallons of water the homes in West Valley use on average each day.

   2,817 × 380

   What is the total number of gallons of water the homes in West Valley use on average each day?

   A. 860,460 gallons

   B. 870,460 gallons

   C. 1,060,460 gallons

   D. 1,070,460 gallons

3. Sara poured $1\frac{1}{8}$ cups of lemonade into each of 5 glasses. What was the total amount of lemonade Sara poured into the 5 glasses?

A. $3\frac{7}{8}$ cups

B. $5\frac{1}{8}$ cups

C. $5\frac{5}{8}$ cups

D. $6\frac{1}{8}$ cups

4. Each member of Mark's school band sold the same number of tickets to their concert. Altogether the members of the school band sold a total of 442 tickets. There are 34 members of the band. To determine the number of tickets each member sold, Mark used the model shown.

$442 \div 34$	10	10	10	1	1	1	1

?	100	100	100	10	10	10	10
	10	10	10	1	1	1	1
	10	10	10	1	1	1	1
	10	10	10	1	1	1	1

How many tickets did each member of Mark's school band sell?

A. 13 tickets

B. 34 tickets

C. 408 tickets

D. 440 tickets

5. Kara went running 3 times this week. Each time, she ran 2.5 miles. Which number line has point K graphed so that it **best** represents the total distance Kara ran, in miles?

A.

B.

C.

D.
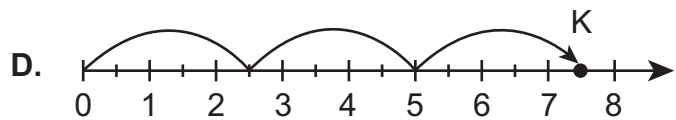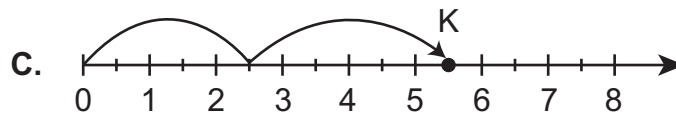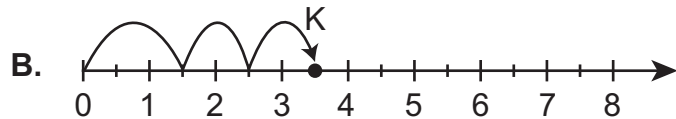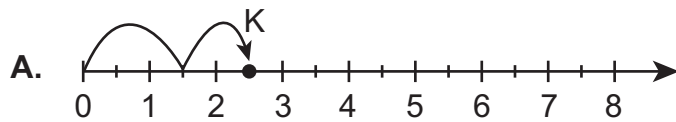
6. A theater collected \$6 for each ticket sold to a movie. The theater sold 500 tickets to the movie. The expression below can be used to find how much money the theater collected for the tickets.

$$6 \times 500$$

Which expression can also be used to find how much money the theater collected for the tickets?

A. 30×10^1

B. 30×10^3

C. $(6 \times 5) \times 10^2$

D. $(6 \times 5) \times 10^3$

Session 1—Math (No Calculator)

7. The schedule for a music showcase includes 3 sets that are 20 minutes each and 1 set that is 40 minutes. There is a 10-minute break between each set. The total length of the music showcase is 3(20 + 10) + 40 minutes. What is the total length of the music showcase?

    A.   73 minutes

    B. 110 minutes

    C. 130 minutes

    D. 210 minutes

8. Carole used $3\frac{3}{4}$ cups of butter for baking. The amount of sugar she used was $\frac{1}{3}$ of the amount of butter she used. How much sugar, in cups, did she use?

    A. $1\frac{1}{4}$ cups

    B. $1\frac{1}{3}$ cups

    C. $2\frac{1}{2}$ cups

    D. $3\frac{5}{12}$ cups

9. A store sells 107 different colors of paint. They have 25 cans of each color in storage. The number of cans of paint the store has in storage can be found using the expression below.

$$107 \times 25$$

How many cans of paint does the store have in storage?

    A.   749

    B. 2,675

    C. 2,945

    D. 4,250

Session 1—Math (No Calculator)

10. Yala brought $\frac{5}{9}$ of a pound of cherries to school. Will brought $\frac{4}{15}$ of a pound of cherries to school. Yala used the expression below to find the difference in the number of pounds of cherries she and Will brought to school.

$$\frac{5}{9} - \frac{4}{15}$$

Which expression shows one way to solve the expression Yala used above?

A. $\dfrac{5-4}{9-15}$

B. $\dfrac{5-4}{9\times15}$

C. $\dfrac{11}{15} - \dfrac{4}{15}$

D. $\dfrac{25}{45} - \dfrac{12}{45}$

11. Use the expression and unit grid below to answer the question.

$0.24 \div 3$
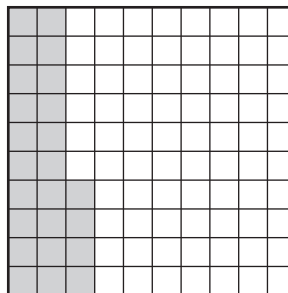
What is the value of the expression?

A. 0.08

B. 0.8

C. 1.25

D. 12.5

Session 1—Math (No Calculator)

12. Nick is making two different types of bread. He needs $3\frac{2}{3}$ cups of flour for one type and $5\frac{3}{4}$ cups of flour for the other type. The total amount of flour, in cups, Nick will need to make both types of bread can be found by solving the expression below.

$$3\frac{2}{3} + 5\frac{3}{4}$$

How many cups of flour will Nick need to make both types of bread?

A. $8\frac{1}{2}$ cups

B. $8\frac{5}{7}$ cups

C. $9\frac{5}{12}$ cups

D. $9\frac{7}{12}$ cups

13. At a football game, $\frac{8}{15}$ of the fans wore team T-shirts. Of those wearing team T-shirts, $\frac{1}{4}$ also wore team hats. What fraction of the fans at the football game wore both a team T-shirt and a team hat?

A. $\frac{2}{15}$

B. $\frac{9}{19}$

C. $\frac{7}{11}$

D. $\frac{47}{60}$

14. Add.

$$2\frac{3}{8} + \frac{13}{20}$$

A. $2\frac{16}{28}$

B. $2\frac{128}{160}$

C. $3\frac{1}{40}$

D. $3\frac{41}{40}$

15. **Use the equation below to answer the question.**

$$0.75 \times 6.5 = m$$

Which expression shows one way to solve the equation?

A. $75 \times 65 \div 1{,}000$

B. $75 \times 650 \div 1{,}000$

C. $0.7 \times 6 + 0.7 \times 5 + 0.5 \times 6 + 0.5 \times 5$

D. $0.7 \times 6 + 0.7 \times 0.5 + 0.5 \times 6 + 0.5 \times 0.5$

16. Aikong spent $\frac{3}{8}$ of his time studying science. He spent $\frac{2}{5}$ as much time studying English as science. What fraction of Aikong's study time was spent studying English?

    A. $\frac{1}{40}$

    B. $\frac{3}{20}$

    C. $\frac{31}{40}$

    D. $\frac{15}{16}$

17. Daniel made a chocolate pie, a cream pie, and an apple pie that were the same size and shape for a celebration. After the celebration the following amounts of pie were remaining:

    • $\frac{5}{8}$ of the chocolate pie

    • $\frac{1}{6}$ of the cream pie

    • $\frac{1}{4}$ of the apple pie

What fraction of a whole pie is remaining?

    A. $\frac{7}{24}$ of a pie

    B. $\frac{7}{18}$ of a pie

    C. $\frac{25}{24}$ pies

    D. $\frac{19}{10}$ pies

Session 1—Math (No Calculator)

18. Of the lifeguards working at a swimming pool, $\frac{1}{5}$ of them are new this summer and $\frac{3}{8}$ of them are working there for the second summer in a row. What fraction of the lifeguards are either new or working there for the second summer in a row?

   A. $\frac{4}{40}$

   B. $\frac{4}{13}$

   C. $\frac{23}{40}$

   D. $\frac{6}{8}$

19. Philip had basketball practice on 19 days in January. There are 31 days in January. Which expression is equal to the fraction of the total number of days in January that Philip had basketball practice on?

   A. $19 \div 31$

   B. $31 \div 19$

   C. $\frac{19}{31+19}$

   D. $\frac{31}{31+19}$

20. Which diagram shows how to correctly multiply 1,234 × 987?

A.
```
    1234
  ×  987
    8638
    9872
   10806
  1187958
```

C.
```
    1234
  ×  987
    8638
    9672
   11106
  1215958
```

B.
```
    1234
  ×  987
    8638
    9872
   11106
  1217958
```

D.
```
    1234
  ×  987
    7638
    9872
   11106
  1216958
```

21. The distance between Miriam's house and Debbie's house is 444.44 meters. Which statement about the values of the digits in the distance, in meters, between their houses is true?

A. The value of the 4 in the tenths place is $\frac{1}{10}$ the value of the 4 in the tens place.

B. The value of the 4 in the hundredths place is $\frac{1}{10}$ the value of the 4 in the ones place.

C. The value of the 4 in the hundreds place is 10 times greater than the value of the 4 in the ones place.

D. The value of the 4 in the tenths place is 10 times greater than the value of the 4 in the hundredths place.

22. Which situation can be represented by the fraction $\frac{20}{8}$?

    A. Leslie spent 20 dollars and 8 cents at a store.
       How is the amount of money Leslie spent written as a fraction?

    B. Mr. Kramer's 8 grandchildren shared 20 crackers equally.
       How many crackers did each grandchild get?

    C. Mitch bought 20 containers of flowers at a plant store.
       Each container had 8 flowers in it.
       How many flowers did Mitch buy?

    D. Stamps are sold in booklets of 20 stamps.
       Donna used 8 stamps to send invitations for a party.
       How many booklets of stamps did Donna use to send her invitations?

23. Mr. Harrison made sandwiches for a picnic. Of the sandwiches he made, $\frac{1}{6}$ of them were turkey sandwiches. Mr. Harrison added cheese to $\frac{1}{2}$ of the turkey sandwiches he made. What fraction of the sandwiches made by Mr. Harrison had both turkey and cheese?

    A. $\frac{1}{12}$

    B. $\frac{1}{8}$

    C. $\frac{2}{8}$

    D. $\frac{4}{6}$

Session 1—Math (No Calculator)

24. Asha measured the distances she threw and kicked a football. A diagram of her results is shown below.

Throwing and Kicking a Football

Throwing a football

Kicking a football

23.78 yards   26.25 yards
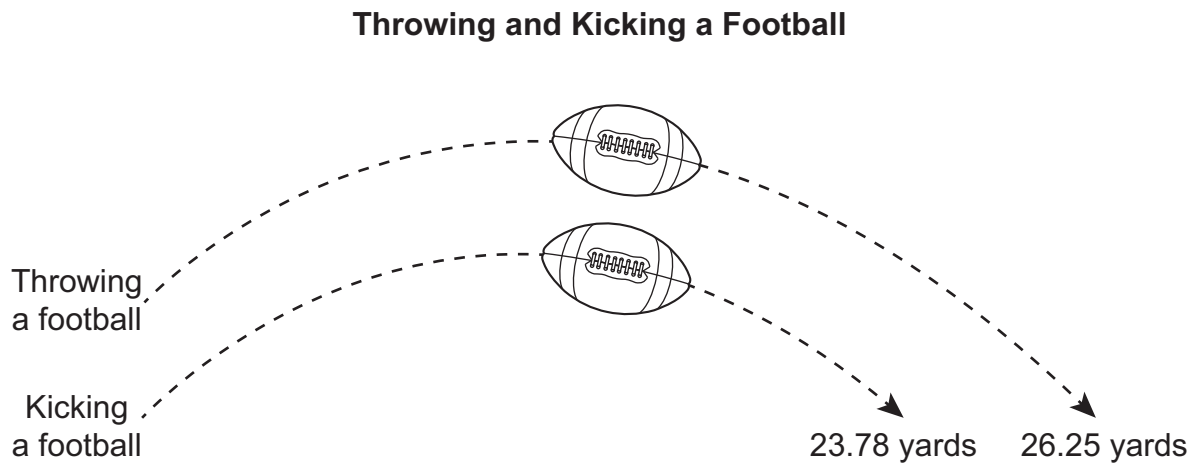
How much farther, in yards, did she throw the football than kick it?

A. 2.47 yards

B. 2.57 yards

C. 3.53 yards

D. 3.57 yards

25. Use the expression below to answer the question.

$$3 \times [(2 \times 6 - 5) + (8 \div 4)] - 1$$

What is the value of the expression?

A. 9

B. 11

C. 26

D. 32

26. Kayla had $\frac{3}{4}$ of her book left to read on Sunday night. She read $\frac{1}{5}$ of the book Monday afternoon and $\frac{1}{4}$ of the book Monday evening. What fraction of the book did she still have left to read after Monday evening?

A. $\frac{1}{5}$ of the book

B. $\frac{2}{9}$ of the book

C. $\frac{1}{4}$ of the book

D. $\frac{3}{10}$ of the book

27. Gail has a rectangular rug. The diagram below shows the dimensions of Gail's rug.
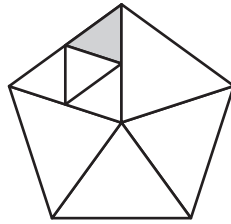
Gail's Rug

$2\frac{3}{4}$ feet

5 feet
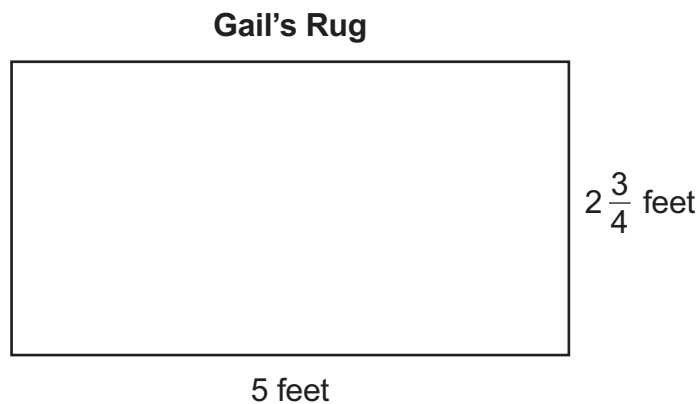
What is the area of Gail's rug?

A. $7\frac{3}{4}$ square feet

B. $10\frac{3}{4}$ square feet

C. $13\frac{3}{4}$ square feet

D. $15\frac{1}{2}$ square feet

Session 1—Math (No Calculator)

28. Soki used the model below to represent a situation.

Which situation could Soki's model represent?

A. Soki has $5 in quarters. There are 4 quarters in one dollar. How many quarters does Soki have in all?

B. Soki has a rope that is 5 yards long. She cuts the rope into 4 equal length pieces. Soki uses all of the rope. How long, in yards, is each piece of rope?

C. Of Soki's friends, 5 of them each have $\frac{1}{4}$ of a pound of gummy bears. The 5 friends combine the gummy bears. How many pounds of gummy bears do Soki's 5 friends have in total?

D. Soki has $\frac{1}{5}$ of a gallon of paint remaining. She puts all of the remaining paint into 4 jars. Each jar contains the same amount of paint. How much paint, in gallons, does Soki put into each jar?

29. Zeik is cooking $\frac{1}{3}$ of a bag of rice for a meal. He will give each of his 4 guests the same amount of rice. Zeik is not eating any rice. What is the maximum fraction of the bag of rice Zeik could give each of his 4 guests?

A. $\frac{1}{12}$

B. $\frac{4}{12}$

C. $\frac{3}{4}$

D. $\frac{4}{3}$

30. A sporting goods store shipped baseballs to schools. It shipped a total of 756 baseballs to 21 schools. Each school received the same number of baseballs. The model shown below calculates the number of baseballs shipped to each school.

	10	10	10	3	3
21	210	210	210	63	63

$$\begin{array}{r} 756 \\ -210 \\ \hline 546 \end{array} \quad \begin{array}{r} 546 \\ -210 \\ \hline 336 \end{array} \quad \begin{array}{r} 336 \\ -210 \\ \hline 126 \end{array} \quad \begin{array}{r} 126 \\ -63 \\ \hline 63 \end{array} \quad \begin{array}{r} 63 \\ -63 \\ \hline 0 \end{array}$$

How many baseballs were shipped to each school?

A. 33 baseballs

B. 36 baseballs

C. 57 baseballs

D. 63 baseballs

STOP

Session 2—Math (Calculator)

Write your answers for questions 31 through 50 in the spaces provided on page 35, session 2 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session, but do not work on any other session.

You MAY use a calculator for this session.

31. Of the cans of soup in Rolando's cupboard, $\frac{1}{2}$ are tomato and $\frac{2}{5}$ are chicken noodle. What fraction of the cans of soup in Rolando's cupboard are either tomato or chicken noodle?

   A. $\frac{3}{7}$

   B. $\frac{3}{5}$

   C. $\frac{7}{10}$

   D. $\frac{9}{10}$

32. Mr. Lucci put together 5 bags of pens. He put 19 black pens and 12 red pens in each bag. Which expression shows the total number of pens Mr. Lucci put into bags?

   A. $(5 \times 19) + 12$

   B. $5 \times (19 + 12)$

   C. $5 + (19 \times 12)$

   D. $(5 + 19) \times 12$

33. A baseball team sold 215 youth tickets for $3 each and 467 adult tickets for $7 each. Which expression can be used to find how much more money the baseball team made on adult tickets than on youth tickets?

   A. (215 × 3) – (467 × 7)

   B. (215 × 7) – (467 × 3)

   C. (467 × 3) – (215 × 7)

   D. (467 × 7) – (215 × 3)

34. Lovelle and Rachel are cutting out stars to decorate a poster. In the graph below, Lovelle's progress is represented by the point L, and Rachel's progress is represented by the point R.
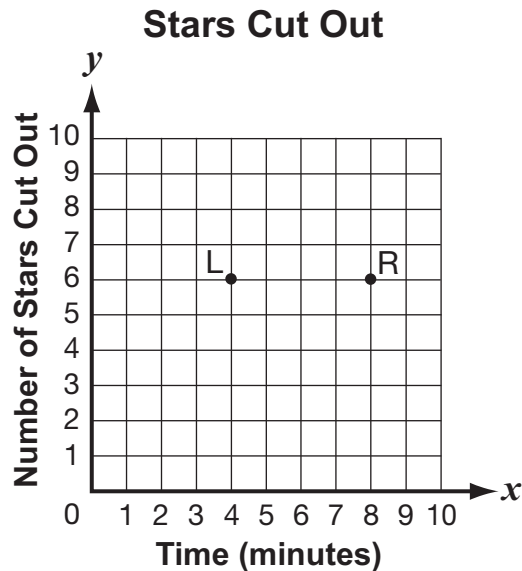
Stars Cut Out

Which statement about Lovelle and Rachel's progress is true?

   A. Rachel cut out 8 stars in 6 minutes.

   B. Lovelle cut out 6 stars in 4 minutes.

   C. Rachel cut out 4 more stars than Lovelle.

   D. Lovelle and Rachel cut the same number of stars in 6 minutes.

35. Deepak and his friends kept track of how much their height increased, in inches, over the past year. The line plot below shows this information.

Height Increase (inches)
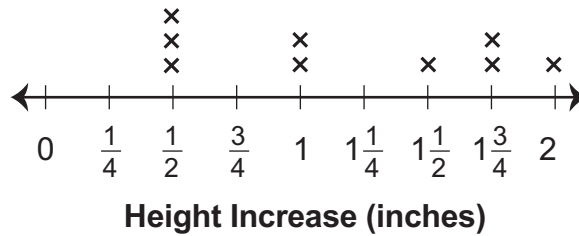
A year ago Deepak was $52\frac{1}{4}$ inches tall. Which height could he be now?

A. $52\frac{1}{2}$ inches

B. 53 inches

C. $53\frac{1}{2}$ inches

D. 54 inches

36. A gas station sold 300.5849 gallons of gas in a day. How many gallons of gas did the gas station sell, rounded to the nearest hundredth?

A. 300

B. 300.58

C. 300.585

D. 300.59

37. Which two quadrilaterals have **both** 2 pairs of parallel sides and 2 acute angles?

A.

B.

C.

D.

38. Veronica stacked toy blocks to form the shape shown below.

Veronica's Stack of Toy Blocks

3 toy blocks

4 toy blocks
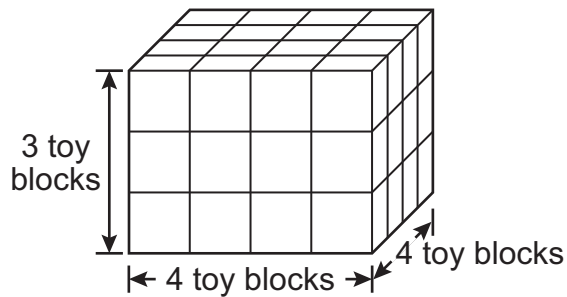
4 toy blocks

How many toy blocks are in Veronica's stack of toy blocks?

A. 11

B. 30

C. 40

D. 48

39. A small bat weighs about $\frac{2}{5}$ of an ounce. A small hummingbird weighs about $\frac{14}{25}$ of an ounce. Which set of statements explains how to find the difference in the weights of these animals?

A. Multiply the numerator and denominator of $\frac{2}{5}$ by 5.

Subtract 10 from 14 to get the numerator.

Use 25 as the denominator.

B. Multiply the numerator and denominator of $\frac{2}{5}$ by 5.

Subtract 10 from 14 to get the numerator.

Subtract 25 from 25 to get the denominator.

C. Multiply the denominator of $\frac{2}{5}$ by 5.

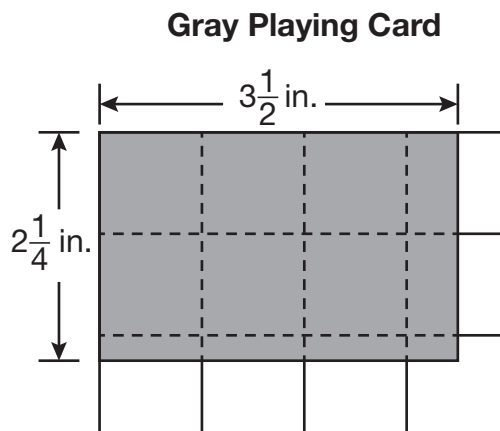Subtract 2 from 14 to get the numerator.

Use 25 as the denominator.

D. Multiply the numerator of $\frac{2}{5}$ by 5.

Subtract 10 from 14 to get the numerator.

Subtract 5 from 25 to get the denominator.

Session 2—Math (Calculator)

40. Quincy laid a gray playing card on a grid as shown in the diagram below.

Gray Playing Card

He used the grid to help him find the area of the gray playing card. What is the area, in square inches, of the gray playing card Quincy laid on the grid?

A. $5\frac{3}{4}$ square inches

B. $6\frac{3}{4}$ square inches

C. $7\frac{7}{8}$ square inches

D. $11\frac{1}{2}$ square inches

41. The cargo weight in Morten's truck cannot be greater than 3 tons. He has 5,000 pounds of cargo in his truck. What is the greatest amount of cargo weight Morten can add without going over the weight limit?

A. 2 tons

B. 5.5 tons

C. 1,000 pounds

D. 2,000 pounds

Session 2—Math (Calculator)

42. Which statement is true?

    A. All hexagons are triangles because they have at least 3 sides.

    B. All octagons are polygons because they have at least 3 sides.

    C. All parallelograms are rectangles because they have 2 sets of parallel sides.

    D. All rhombi are squares because they have 4 sides that are all the same length.

43. Janelle is sending a package to her friend. She needs to calculate how much the contents of the package weigh. Janelle uses the table below to find the total weight of the contents of the package.

Contents of Janelle's Package

Object	Weight
Pad of paper and a pencil	8 oz.
Coloring book	5 oz.
Dictionary	2 lb.
Toy	11 oz.

What is the total weight of the contents of the package?

    A. 3 lb. 8 oz.

    B. 5 lb. 6 oz.

    C. 26 oz.

    D. 56 lb.

44. Last month Ellen was in school for 116 hours. Each school day is 6 hours long. How many school days was Ellen in school last month?

    A. $\dfrac{6}{122}$

    B. $\dfrac{6}{116}$

    C. $\dfrac{116}{6}$

    D. $\dfrac{122}{6}$

45. Andrea has $\frac{1}{4}$ of a sack of rice. She divides the rice equally into 7 bags. What fraction of the full sack of rice is in each bag?
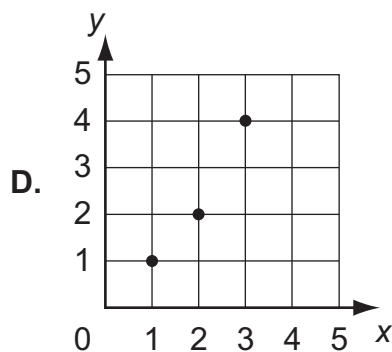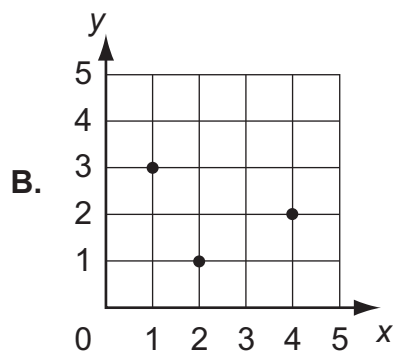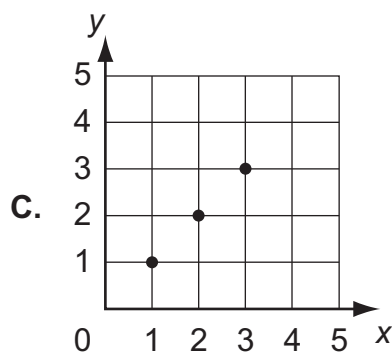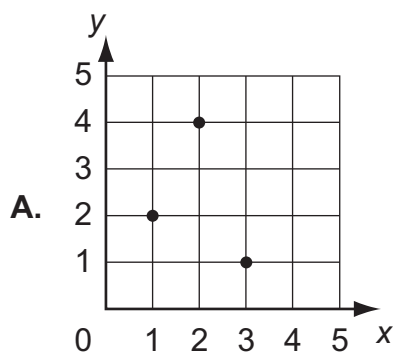
A. $\frac{1}{28}$

B. $\frac{1}{7}$

C. $\frac{2}{11}$

D. $\frac{11}{28}$

46. Which coordinate grid shows the points (1, 2), (2, 4), and (3, 1) graphed correctly?

A.

C.

B.

D.

47. On Sunday, Doug started recording how many minutes he had read for the week. He also started recording how many minutes he had practiced the trumpet for the week. The table below shows the totals for the first four days.

Time Spent Practicing the Trumpet and Reading This Week

Day	Total Minutes Spent Reading	Total Minutes Spent Practicing Trumpet
Sunday	12	15
Monday	24	30
Tuesday	36	45
Wednesday	48	60

Both patterns continue. Which statement about the patterns created by the numbers of minutes Doug has spent reading and practicing his trumpet this week is true?

A. The number 90 will appear in both patterns.

B. Both patterns switch back and forth between even and odd numbers.

C. The sum of the corresponding terms in the patterns is always divisible by 3.

D. The difference between corresponding terms in the patterns is always a multiple of 6.

48. A bag of dried fruit weighs three hundred twenty-six thousandths of a pound. What is the weight of the bag of dried fruit, in pounds, written in expanded form?

A. $3 \times \dfrac{1}{10} + 2 \times \dfrac{1}{100} + 6 \times \dfrac{1}{1,000}$

B. $3 \times \dfrac{1}{1,000} + 2 \times \dfrac{1}{100} + 6 \times \dfrac{1}{10}$

C. $3 \times 100 + 2 \times 10 + 6 \times 1$

D. $3 \times 100,000 + 2 \times 10,000 + 6 \times 1,000$

49. A scientist measured the diameters of four human hairs. The diameters, in millimeters, were 0.091, 0.169, 0.17, and 0.023. Which inequality correctly compares the diameters of two of the human hairs?

    A. 0.17 > 0.023

    B. 0.091 < 0.023

    C. 0.169 > 0.17

    D. 0.17 < 0.091

50. Which figure most likely has a volume of 1 cubic unit?

A.
1 unit

C.
1 unit

B.
1 unit

D.
1 unit

STOP
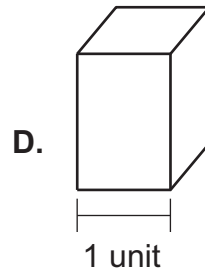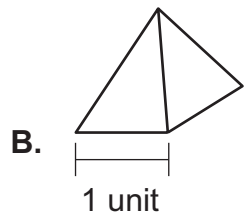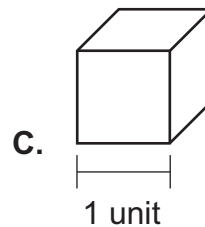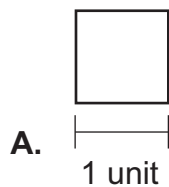
Session 3—Math (Calculator)

Write your answers for questions 51 and 52 in the spaces provided below. The questions have more than one part. Show all the work you do to find your answers. Even if you cannot answer all parts, answer as many as you can. You may still get points for answering part of a question. Be sure to write clearly. You may review your work in this session, but do not work on any other session.

You MAY use a calculator for this session.

51. Craig has a yellow jug, a red jug, and a blue jug. The blue jug holds $\frac{2}{3}$ of a gallon.

   A. Maritza has a blue jug that holds $\frac{6}{9}$ of a gallon. Craig says that his blue jug holds the same amount as Maritza's blue jug. He uses the equation below to support his statement.

   $$\frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$$

   Explain why Craig's equation supports his statement.

B. To find how much the yellow jug holds, Craig multiplies the amount his blue jug holds by a number greater than 1 but less than 2. To find how much the red jug holds, Craig multiplies the amount his blue jug holds by a number greater than 0 but less than 1. Write the colors of the jugs in order from **least** to **greatest** on the lines below based on how many gallons they each hold.

_____, _____, _____

Explain or show how you determined the sizes of the red and yellow jug in comparison to the blue jug.

Session 3—Math (Calculator)

52. Kelsey has a fish tank in the shape of a rectangular prism. A diagram of her fish tank is shown below.
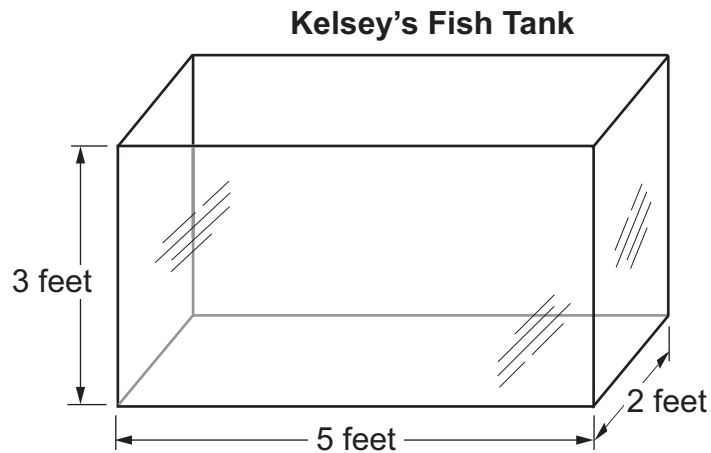
Kelsey's Fish Tank

A. What is the volume, in cubic feet, of Kelsey's fish tank?

_____ cubic feet

B. Martin has two fish tanks, each in the shape of a rectangular prism. The total volume of his two fish tanks is equal to the volume of Kelsey's fish tank. The first of Martin's fish tanks has a length of 3 feet, a width of 1 foot, and a height of 2 feet, as shown in the diagram below.

Martin's First Fish Tank
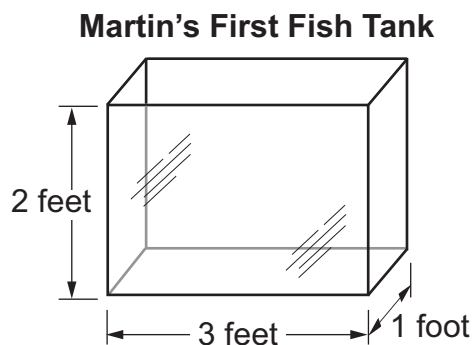
List two unique sets of dimensions that could represent the dimensions of Martin's second fish tank.

C. Pia also has a fish tank. The volume of her tank is greater than that of Martin's second fish tank but less than that of Kelsey's fish tank. The area of the bottom of Pia's fish tank is 7 square feet. What is one possible height, in feet, of Pia's fish tank?

_____ feet

STOP

Multiple-Choice Answer Sheet

Name: _____

Session 1

1. _____   16. _____

2. _____   17. _____

3. _____   18. _____

4. _____   19. _____

5. _____   20. _____

6. _____   21. _____

7. _____   22. _____

8. _____   23. _____

9. _____   24. _____

10. _____   25. _____

11. _____   26. _____

12. _____   27. _____

13. _____   28. _____

14. _____   29. _____

15. _____   30. _____

Multiple-Choice Answer Sheet

Name: _____

Session 2

31. _____   41. _____

32. _____   42. _____

33. _____   43. _____

34. _____   44. _____

35. _____   45. _____

36. _____   46. _____

37. _____   47. _____

38. _____   48. _____

39. _____   49. _____

40. _____   50. _____

Use the information below to answer questions on the Math test.

U.S. Unit Conversions
1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet

Metric Unit Conversions
1 meter = 1,000 millimeters
1 meter = 100 centimeters
1 kilometer = 1,000 meters

1 pound = 16 ounces
1 ton = 2,000 pounds

1 liter = 1,000 milliliters

1 kilogram = 1,000 grams

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours

Rectangular Prism
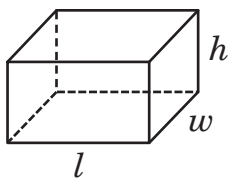
$$\text{Volume} = l \times w \times h$$
$$\text{Volume} = B \times h$$
$$B = l \times w$$

NeSA
Mathematics

Nebraska State Accountability

Grade 5

Mathematics

Practice Test

Name:

Directions:

On the following pages are multiple-choice questions for the Grade 5 Practice Test, a practice opportunity for the *Nebraska State Accountability–Mathematics (NeSA–M)*.
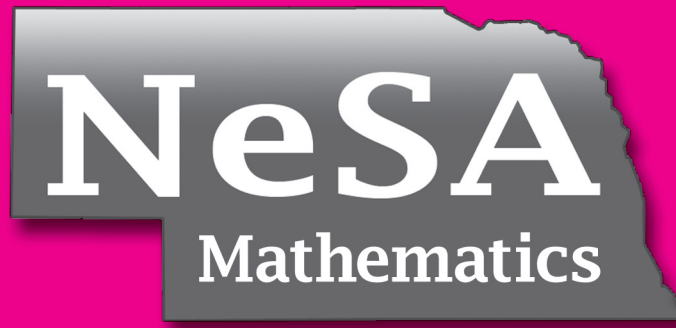
Each question will ask you to select an answer from among four choices.

For all questions:

- Read each question carefully and choose the best answer.
- You may use scratch paper to solve the problems.
- The Mathematics Reference Sheet is provided in the back of the test booklet. You may refer to this page any time during the test.
- You may <u>not</u> use a calculator on this test.
- Be sure to answer ALL the questions.

Remember only one of the answers provided is the correct response.

1. Evan wants to measure the length of his room. Which unit of measure is appropriate to measure the length of his room?

    A. centimeter

    B. foot

    C. inch

    D. millimeter

2. What is $\dfrac{3}{9}$ in simplest form?

    A. $\dfrac{1}{3}$

    B. $\dfrac{1}{2}$

    C. $\dfrac{3}{6}$

    D. $\dfrac{6}{18}$

3. Mrs. Perkins makes study guides for her class of 21 students. She uses 252 sheets of paper. How many sheets of paper are in each study guide?

    A. 12 sheets

    B. 231 sheets

    C. 273 sheets

    D. 5,292 sheets

3

Go on to the next page.

4. **Use the rectangle below to answer the question.**
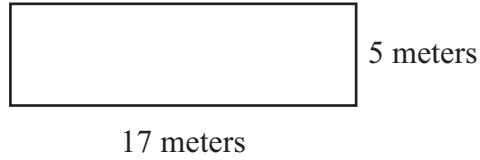
    5 meters

    17 meters

    What is the area of the rectangle?

    A. 12 square meters

    B. 22 square meters

    C. 44 square meters

    D. 85 square meters

5. Which equation shows how to multiply $6 \times 5 \times 3$ using the associative property?

    A. $6 \times 5 \times 3 = 3 \times 5 \times 6$

    B. $(6 \times 3) + 5 = 6 \times (3 + 5)$

    C. $(6 \times 5) \times 3 = 6 \times (5 \times 3)$

    D. $(6 \times 5) + (6 \times 3) = (6 \times 3) + (6 \times 5)$

6. Which picture shows 180° of a circle?

   A.

   B.

   C.

   D.
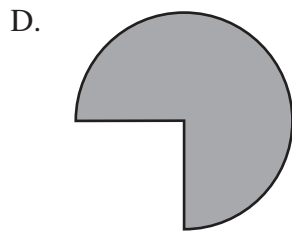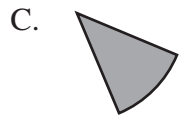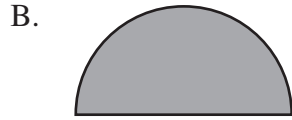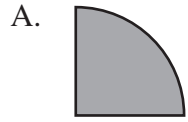
7. Each time John goes to the movies he spends $7.00. Which expression shows how much he spends after going to the movies t times?

   A. t + $7.00

   B. t – $7.00

   C. $7.00 × t

   D. $7.00 – t

8. What is 92.53 ÷ 10?

   A. 0.9253

   B. 9.253

   C. 92.53

   D. 925.3

9. In the expression 15 − n, which value of n results in the greatest difference?

   A. $n = 0$

   B. $n = 5$

   C. $n = 10$

   D. $n = 15$

10. What is the value of w in the equation 116 − $w = 95$?

    A. $w = 19$

    B. $w = 21$

    C. $w = 210$

    D. $w = 211$

11. What is the standard form of twenty-one and six hundred thirty-four thousandths?

    A. 21.60034

    B. 21.6034

    C. 21.634

    D. 2,160,034

12. **Use the coordinate grid below to answer the question.**
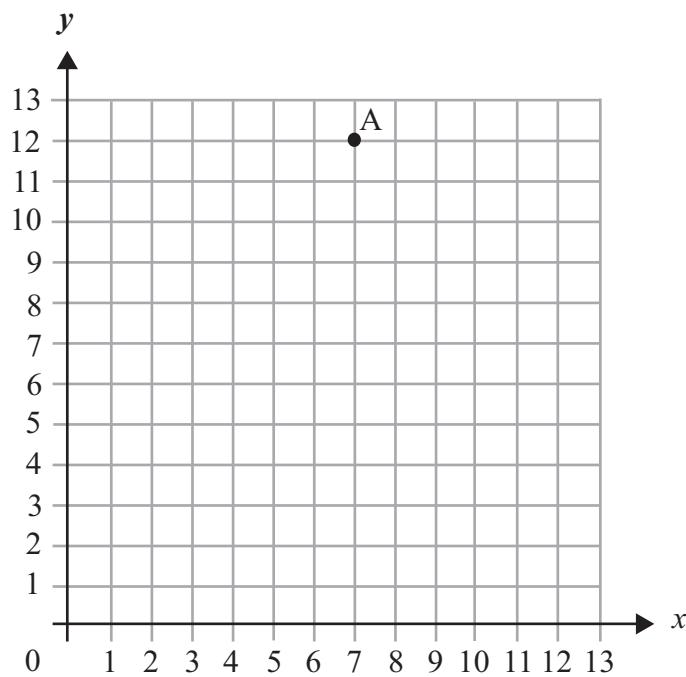
What are the coordinates of Point A?

    A. (11, 6)

    B. (12, 7)

    C. (6, 11)

    D. (7, 12)

13. **Use the spinner below to answer the question.**
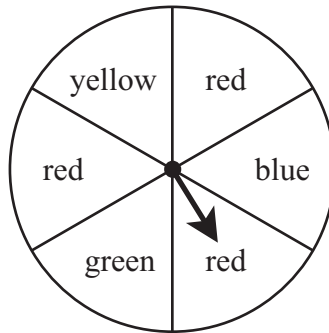
What are all the possible outcomes for the spinner?

A. red, blue, red, green

B. yellow, red, blue, red

C. red, blue, yellow, green

D. yellow, red, blue, yellow

14. Which is the correct sum?

$$\begin{array}{r} 2.34 \\ + 1.7 \\ \hline \end{array}$$

A. 2.51

B. 3.04

C. 3.14

D. 4.04

15. **Use the table below to answer the question.**

Ashley's Grocery List

toothpaste................	$3.99
bread......................	$2.45
milk.......................	$2.69
apples....................	$3.10
cereal....................	$4.89

Ashley goes to the grocery store to buy each of the items on her list. Ashley rounds the cost of each item to the nearest dollar. What is the estimated total cost of these items?

A. $15.00

B. $16.00

C. $17.00

D. $18.00

16. Which percent equals $\frac{1}{4}$?

A. 14%

B. 25%

C. 41%

D. 52%

17. **Use the expression below to answer the question.**

$$53 \times 24$$

How can the distributive property be used to solve this expression?

A. $(50 + 20) \times (3 + 4)$

B. $(5 \times 2) + (3 \times 4)$

C. $(53 + 4) \times (53 + 2)$

D. $(53 \times 20) + (53 \times 4)$

18. Which list is in order from least to greatest?

A. 1,000; 1,010; 1,009

B. 1,010; 1,011; 1,100

C. 1,100; 1,010; 1,001

D. 1,010; 1,100; 1,001

19. Which is a composite number?

    A. 5

    B. 7

    C. 19

    D. 21

20. What is 3.8×10?

    A. 0.38

    B. 3.80

    C. 38

    D. 380

21. **Use the graph below to answer the question.**

Activities in a Day
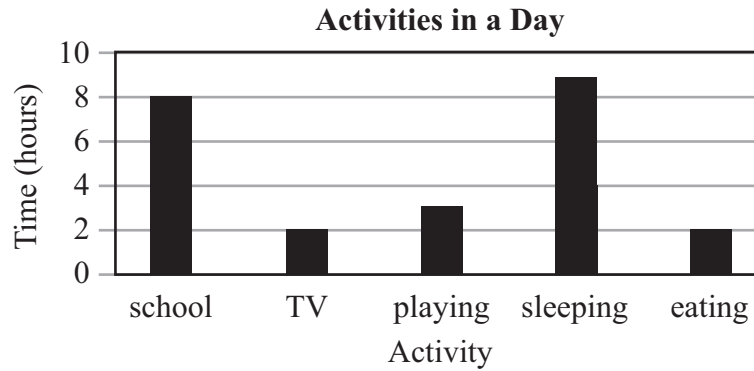
Which circle graph could represent the information in the bar graph?

A. **Activities in a Day**

B. **Activities in a Day**

C. **Activities in a Day**

D. **Activities in a Day**
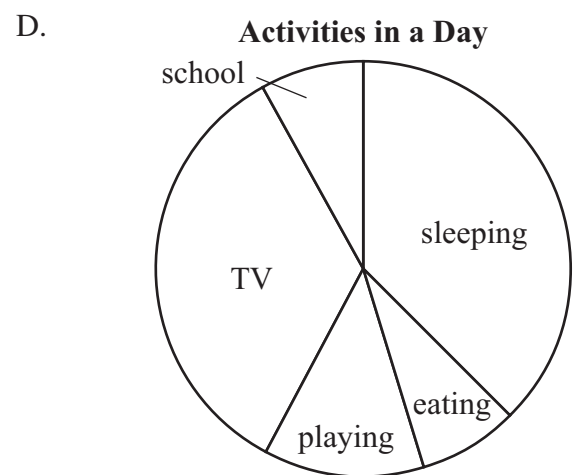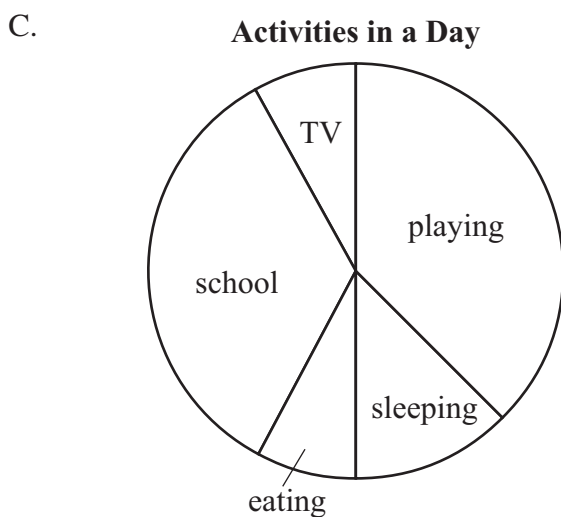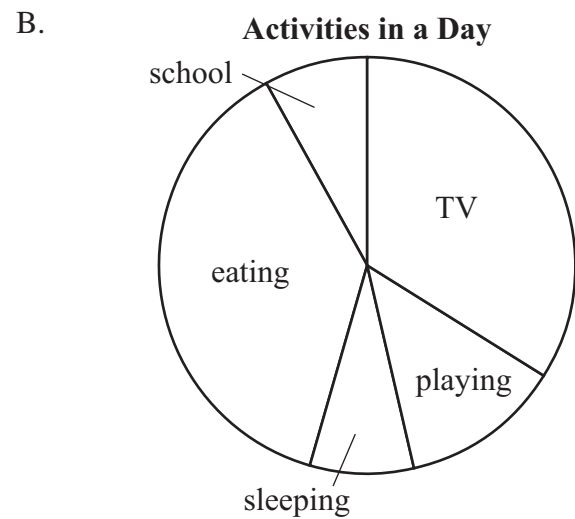
22. **Use the picture below to answer the question.**
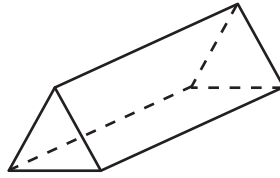
How many faces does the prism have?

A. 3 faces

B. 4 faces

C. 5 faces

D. 6 faces

23. **Use the bar graph below to answer the question.**

Favorite Fifth Grade Activities
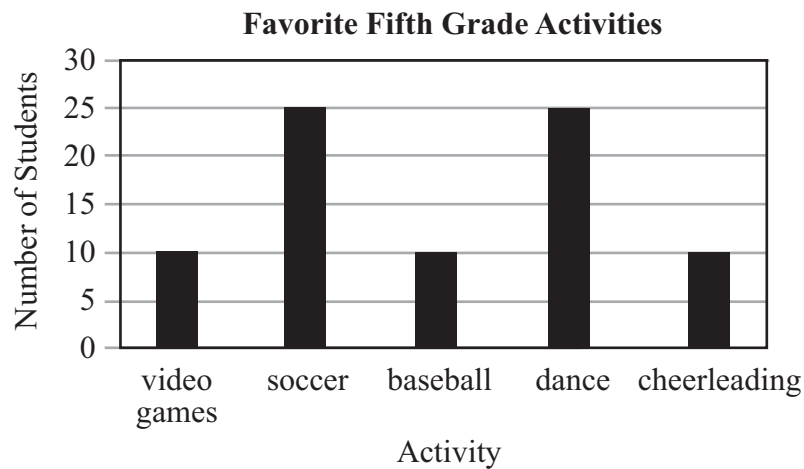
A teacher asked the fifth graders about their favorite activities. What is the total number of fifth graders represented on the graph?

A. 10

B. 25

C. 65

D. 80

24. What is the value of $12 - (3 + 5)$?

    A. 4

    B. 10

    C. 14

    D. 20

Shape	Area	Perimeter
Rectangle	$A = l \times w$	$P = 2l + 2w$
Square	$A = s \times s$	$P = s + s + s + s$

Key	
l = length	s = side length
w = width	

Standard Units	Metric Units
Conversions – Length	
1 foot (ft) = 12 inches (in.)	1 centimeter (cm) = 10 millimeters (mm)
1 yard (yd) = 3 feet (ft) = 36 inches (in.)	1 meter (m) = 100 centimeters (cm)
1 mile (mi) = 1,760 yards (yd) = 5,280 feet (ft)	1 meter (m) = 1,000 millimeters (mm)
	1 kilometer (km) = 1,000 meters (m)
Conversions – Volume	
1 cup = 8 fluid ounces (fl oz)	1 liter (l) = 1,000 milliliters (ml)
1 pint (pt) = 2 cups	1 liter (l) = 1,000 cubic centimeters (cu. cm)
1 quart (qt) = 2 pints (pt)	
1 gallon (gal.) = 4 quarts (qt)	
Conversions – Weight/Mass	
1 pound (lb) = 16 ounces (oz)	1 gram (g) = 1,000 milligrams (mg)
1 ton = 2,000 pounds (lb)	1 kilogram (kg) = 1,000 grams (g)

SAMPLE TEST

MATHEMATICS

GRADE **5**

2010-2013

2007 Oregon Content Standards
Grades 3 - 8

It is the policy of the State Board of Education and a priority of the Oregon Department of Education that there will be no discrimination or harassment on the grounds of race, color, sex, marital status, religion, national origin, age or handicap in any educational programs, activities, or employment. Persons having questions about equal opportunity and nondiscrimination should contact the State Superintendent of Public Instruction at the Oregon Department of Education.

Office of Assessment & Information Services
Oregon Department of Education
255 Capitol Street NE
Salem, OR 97310
(503) 947-5600

Susan Castillo State Superintendent of Public Instruction	*Leslie Phillips* Science and Social Sciences Assessment Specialist
Doug Kosty Assistant Superintendent	*James Leigh* Mathematics Assessment Specialist
Tony Alpert Director, Assessment and Evaluation	*Dianna Carrizales* Director, Monitoring, Systems, and Outcomes
Steve Slater Manager, Scoring, Psychometrics and Validity	*Bradley J. Lenhardt* Monitoring and Assessment Specialist
Kathleen Vanderwall Manager, Test Design and Administration	*Sheila Somerville* Electronic Publishing Specialist
Holly Carter Assessment Operations and Policy Analyst	*Kathy Busby* *Project Manager*
Ken Hermens Language Arts Assessment Specialist	

INTRODUCTION TO
MATHEMATICS KNOWLEDGE AND SKILLS
GRADE-LEVEL SAMPLE TESTS

BACKGROUND

The Oregon Department of Education provides sample tests to demonstrate the content and types of questions students in grades 3, 4, 5, 6, 7, 8, and High School might encounter on the Oregon Assessment of Knowledge and Skills (multiple-choice), which is administered each year.

ELIGIBLE CONTENT

These sample questions were taken from tests given in previous years. They were originally written to align to the 2002 Oregon Mathematics Grade-level Contnet Standards. A panel of content experts studied the items and selected the ones which best align to the 2007/2009 Mathematics Content Standards for grades 3-8 and high school. New for 2010-11, scores are reported out at three Score Reporting Categories each year. The titles of these SRCs changes from year to year, but describes the content for each year in general terms. The chart shows the SRCs for all grade levels.

	Score Reporting Category 1	Score Reporting Category 2	Score Reporting Category 3
3	3.1 : Number and Operations	3.2 : Number and Operations, Algebra, and Data Analysis	3.3 : Geometry and Measurement
4	4.1 : Number and Operations	4.2 : umber and Operations and Algebra	4.3 : Measurement
5	5.1 : Number and Operations and Data Analysis	5.2 : Number and Operations and Algebra	5.3 : Geometry, Measurement, and Algebra
6	6.1 : Number and Operations	6.2 : Number and Operations and Probability	6.3 : Algebra
7	7.1 : Number and Operations and Algebra	7.2 : Number and Operations, Algebra and Geometry	7.3 : Measurement and Geometry
8	8.1 : Algebra	8.2 : Data Analysis and Algebra	8.3 : Geometry and Measurement
HS	H.A : Algebra and Numeracy	H.G : Geometry	H.S : Data Analysis

As in the operational assessment, students are **strongly encouraged** to use the calculator with which they are most familiar when taking the sample test.

The answer key provided at the end of the sample test booklet identifies which of these categories each question is designed to assess. Because the item calibrations (RIT) are not accurate for the new standards, we are not able to provide a Raw-to-RIT chart as we had in the past.

The same weighting across the three Score Reporting Categories of mathematics content is used in both sample and operational tests, as much as possible. This chart shows the approximate percent weighting of SRCs by grade level:

Grade	Score Reporting Category 1	Weight	Score Reporting Category 2	Weight	Score Reporting Category 3	Weight
3	Number and Operations	35%	Number and Operations, Algebra, and Data Analysis	35%	Geometry and Measurement	30%
4	Number and Operations	35%	Number and Operations and Algebra	35%	Measurement	30%
5	Number and Operations and Data Analysis	35%	Number and Operations and Algebra	35%	Geometry, Algebra, and Measurement	30%
6	Number and Operations	35%	Number and Operations and Probability	35%	Algebra	30%
7	Number and Operations and Algebra	35%	Number and Operations, Algebra and Geometry	35%	Measurement and Geometry	30%
8	Algebra	40%	Data Analysis and Algebra	30%	Geometry and Measurement	30%
HS	Algebra	50%	Geometry	30%	Statistics	20%

WHY PROVIDE STUDENTS WITH A SAMPLE TEST?
Most students feel some anxiety as they approach a test. It is important that students know what to expect when they take the OAKS tests. The sample tests are intended to help students approach the state tests with confidence – comfortable with the test format and familiar with test-taking strategies to help them achieve the best possible score.

CONTENTS OF THE SAMPLE TEST:

This overview of the purpose for sample tests is followed by a list of test-taking tips. The sample test formatting is similar to that of the operational OAKD Online mathematics test. A "fill-in-the-bubble" answer sheet for the students to use follows the actual sample test. The answer key identifies the correct answer, the score reporting category represented, and the code of the content standard to which the item aligns. The sample test has fewer items than the actual assessment, and may not be used in place of the operational assessment.

USING THE SAMPLE TEST:

Teachers often have their students take the test as a "practice" activity in preparation for the actual Statewide Assessment. The answer key could be removed prior to making copies of the sample test for student practice. Copies of the answer key could then be provided to students to check their work or to take home and share with parents.

It is important to remember that **students are encouraged to use their calculators and any mathematics manipulatives** on the test. Providing these tools in class and encouraging students to use them during the sample test may be very beneficial in encouraging students to take their time and use the appropriate tools to help them solve problems during the actual test administration. In fact, teachers may want to demonstrate how various tools could be used to solve the multiple-choice problems as part of the practice test activities.

Teachers may use the overall class results to target areas of instruction needing further attention.

Parents may find the sample test helpful in clarifying the types of questions their child will encounter on the multiple-choice test. Parents could also assist their child in preparing for the test by practicing at home. The list of test-taking tips gives parents suggestions on ways to reduce test anxiety and promote good study and health habits in preparation for testing.

Students may wish to use the test independently to practice before the actual test administration, checking their own responses against the answer key provided at the end of the booklet. Students may benefit from re-reading the problems and analyzing both the correct and incorrect answers to the multiple-choice questions they missed.

Building principals, superintendents, district testing coordinators, curriculum leaders and others may find the sample test useful in communicating with parents, school site councils, and other community members. Parts of the sample test could be included in a newsletter or shared at meetings of local community groups to help constituents better understand the state assessment system. Although the sample tests are not as comprehensive as the complete tests administered in the Statewide Assessment, they do provide a **sampling** of the subject area content and difficulty levels students may encounter as a part of Oregon's high academic standards.

Assessment Conditions
If the practice test is to be administered in "test-like" conditions, the following steps need to be followed:
- post a "testing, do not disturb" sign on the window or door of the classroom
- go over any directions (e.g., students are to complete the entire test or only a portion of the test at one sitting)
- expect the students to work by themselves with no talking during the assessment
- monitor student activities during the assessment
- provide any of the appropriate accommodations or modifications students use during instruction and might need during testing
- expect all students to participate

TEST-TAKING TIPS

BEFORE THE TEST
- Develop a positive attitude. Tell yourself, "I will do my best on this test."
- Get a good night's sleep the night before the test.
- Get up early enough to avoid hurrying to get ready for school.
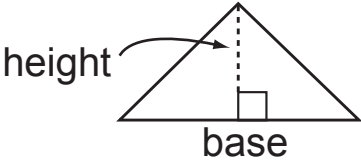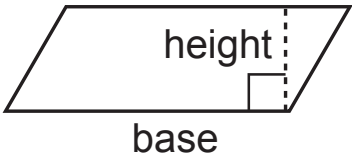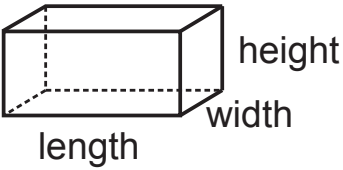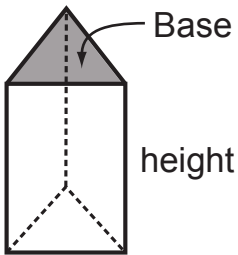- Eat a good breakfast (and lunch, if your test is in the afternoon).

DURING THE TEST
- Stay calm.
- Listen carefully to directions.
- Read each test question and all the answer choices carefully.
- Eliminate any obvious wrong answers
- Solve the problem using paper and pencil, a calculator or by using manipulatives. See if your answer is similar to one of the choices given.
- Pace yourself. If you come to a difficult question, it may be better to skip it and go on. Then come back and focus on the difficult questions one at a time.
- Just like the Statewide Assessment, this is <u>not</u> a timed test. If you need more time to finish the test, notify your teacher.
- Remember the test questions are not necessarily arranged by difficulty. If you get to a question you think is too hard, that doesn't mean the rest of the test questions will also be too hard.
- The teachers who write the test questions use "commonly made mistakes" to identify good distractors, so finding an answer like yours is not a guarantee that it is the correct answer.
- If you are not sure of an answer to a question, try these tips:
  ◊ Cross out the answers you know are not correct and choose among the rest.
  ◊ Read through all the answers very carefully, and then go back to the question. Sometimes you can pick up clues just by thinking about the different answers you have to choose from.
  ◊ If you get stuck on a question, skip it and come back later.
  ◊ It is OK to guess on this test. Try to make your <u>best</u> guess, but make sure you answer all questions.

AFTER THE TEST
- Before you turn your test in, check it over. Change an answer only if you have a good reason. Generally it is better to stick with your first choice.
- Make sure you have marked an answer for every question, even if you had to guess.

ADDITIONAL INFORMATION on mathematics assessment may be obtained by contacting James Leigh, Mathematics Assessment Specialist, email to: James.Leigh@state.or.us

MEASUREMENTS

1 meter = 100 centimeters   1 gram = 1000 milligrams   1 liter = 1000 cubic centimeters
1 kilometer = 1000 meters   1 kilogram = 1000 grams

1 yard = 3 feet   1 pound = 16 ounces   1 cup - 8 fluid ounces
1 mile = 5280 feet   1 ton - 2000 pounds   1 pint = 2 cups
1 hour = 60 minutes   1 quart = 2 pints
1 minute = 60 seconds   1 gallon = 4 quarts

AREA

width
length

Area = length × width

height
base

Area = base × height ÷ 2

height
base

Area = base × height

SURFACE AREA and VOLUME

height
width
length

Surface Area = sum of area of all faces

Volume = length × width × height

Base
height

Surface Area = Sum of Areas of all faces
Volume = Area of Base × height

2010-2013 Mathematics Sample Test – Grade 5

1. Becky put a sticker on each face of a blank cube.
   How many stickers did Becky use in all?
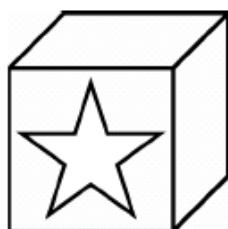
   A. 1
   B. 4
   C. 6
   D. 8

2. What is the sum of 76.21 and 21.34?

   A. 1,626.34
   B. 97.55
   C. 54.8
   D. 3.57

3. How many faces are there on a cube?

   A. 8
   B. 6
   C. 4
   D. 2

4. Which of these would most likely weigh about 10 pounds?

   A. Magazine
   B. Shoe
   C. Bed
   D. Baby

5. Michael Jordan is 6 feet, 6 inches tall.
   About how tall would a door in his house be?

   A. 6 yards
   B. 7 feet
   C. 12 inches
   D. 12 feet

6. Radios used to sell for $9.95. The same radios now sell for $12.50.
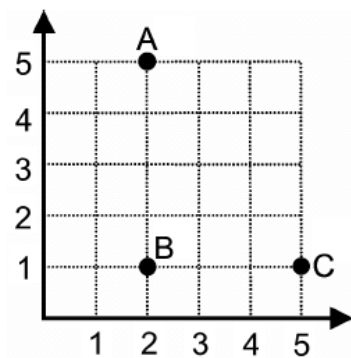   How much more does a radio cost now?

   A. $0.95
   B. $1.55
   C. $2.55
   D. $2.95

7. How many vertices does this shape have?
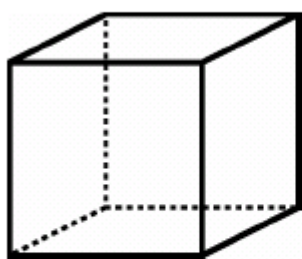
   A. 2
   B. 4
   C. 6
   D. 8

8. The distance traveled on the path from point A to point B to point C is _____.
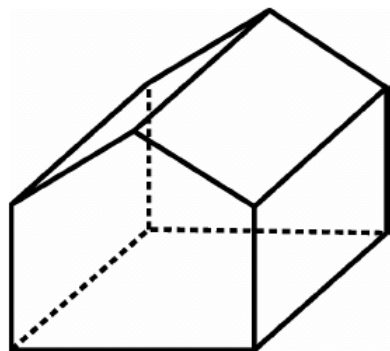

   A. 11
   B. 7
   C. 4
   D. 3

9. Greg had $240 to spend on new clothes. He spent $43.85 on two shirts, $84.98 on a pair of shoes and $56.24 on a pair of pants.
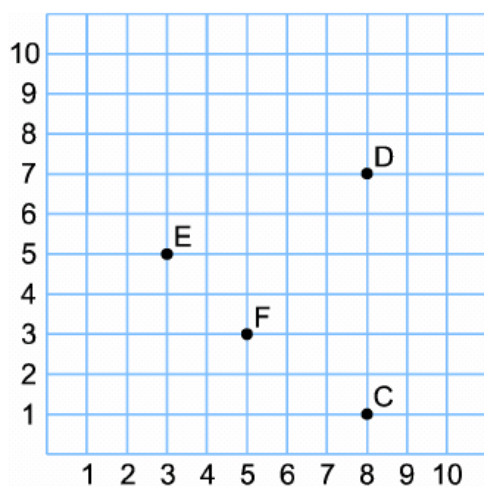   About how much money did he spend?

   A. $200
   B. $185
   C. $175
   D. $170

10. Students in Corey's class can sit in this tent to read.
    How many vertices does the tent have?

    A. 7
    B. 9
    C. 10
    D. 15

11. On this graph, where is point E located?

    A. (3, 5)
    B. (5, 3)
    C. (6, 3)
    D. (8, 1)

12. Marissa collected 261 stickers in 3 years.
    If she continues to collect the same number of stickers each year, how many stickers will she collect in year 4?

    A.   83
    B.   87
    C. 265
    D. 783

13. Three boys shared a candy bar. Rob ate $\frac{1}{4}$, Josh ate $\frac{1}{4}$, and Brent ate $\frac{1}{8}$.

    How much of the candy bar was left?

    A. $\frac{5}{8}$

    B. $\frac{3}{8}$
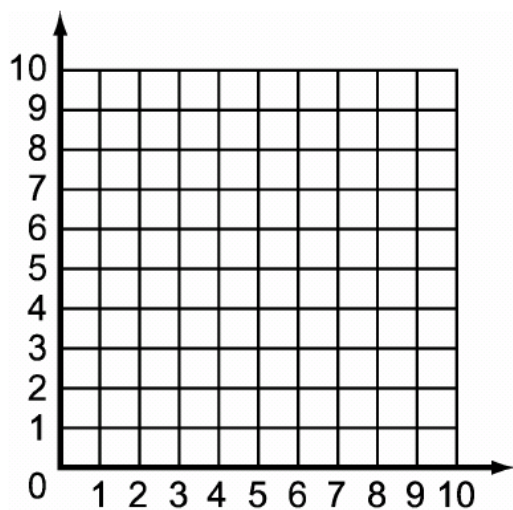
    C. $\frac{2}{8}$

    D. $\frac{1}{8}$

14. Susan has a box that is 10 inches long, 8 inches wide and 4 inches high.
    What is the volume of her box?

    A. 107 cubic inches
    B. 120 cubic inches
   C. 304 cubic inches
    D. 320 cubic inches

15. What is the perimeter of a rectangle ABCD that has vertices at A (4, 1), B (9, 1), C (9, 9), and D (4, 9)?

A. 13 units
B. 18 units
C. 26 units
D. 40 units

16. On a coordinate grid, which of the following describes a path to get from $(0,0)$ to $(6,3)$ to $(8,6)$?

A. right 3, up 6, right 3, up 2
B. right 6, up 3, right 2, up 3
C. right 6, up 8, right 2, up 3
D. right 8, up 6, right 3, up 2

17. If 3 cars hold 15 people, how many cars are needed for 165 people?

A. 11 cars
B. 33 cars
C. 55 cars
D. 180 cars

2010-2013 Mathematics Sample Test – Grade 5

18. Thirty cubes were used to construct this 3-step staircase.
   How many cubes would be used to construct a 10-step staircase of the same width?
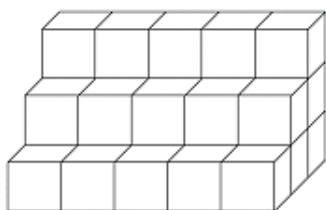
    A.   100
    B.   180
    C.   240
    D.   275

19. The student café sells pizza, hamburgers, hot dogs, burritos, and fries.
    Which items DO NOT make up approximately one half of the sales?
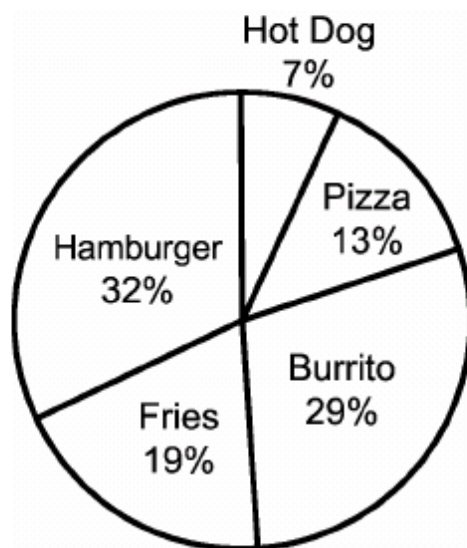
    A.   Hamburger and fries
    B.   Hamburger, burrito, and pizza
    C.   Burrito and fries
    D.   Hot dog, burrito, and pizza

20. A rectangular prism has the given dimensions.
   If those dimensions are doubled, how does the volume of the new prism compare to the volume of the original?
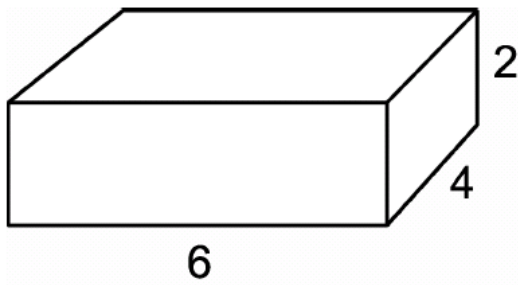
A. 2 times as much
B. 4 times as much
C. 6 times as much
D. 8 times as much

SAMPLE END OF YEAR TEST – SECTION A

Grade Five   Mathematics   Sample End of Year Test

Name: _____   Date: _____

SECTION A

CIRCLE THE CORRECT ANSWER FOR EACH OF THE FOLLOWING.

1. Which best represents four thousand, three hundred and three?

   a) 453

   b) 4033

   c) 4303

   d) 40003003

2. What is the value of 21.34 + 378.15 + 3.01?

   a) 302.50

   b) 392.50

   c) 402.50

   d) 492.50

3. Which best describes the set {2, 3, 5, 7, 11 ….}?

   a) odd numbers

   b) even numbers

   c) fractional numbers

   d) prime numbers

4. What is the value of 486 x 37?

   a) 18042

   b) 17982

   c) 17980

   d) 17882

5. Round off to the nearest hundredth: 29.909.

    a) 29.908

    b) 29.910

    c) 29.918

    d) 30.908

6. What is the value of 4007 − 3984?

    a) 13

    b) 23

    c) 123

    d) 133

7. Which of the following represents 5^3?

    a) $5 \times 5 \times 5$

    b) $5 + 5 + 5$

    c) 5×3

    d) $3 \times 3 \times 3 \times 3 \times 3$

8. Express $\dfrac{4}{5}$ as a decimal number.

    a) 0.4

    b) 0.45

    c) 0.6

    d) 0.8

9. What is the least common multiple for 12 and 8?

    a) 4

    b) 12

    c) 24

    d) 48

10. Study shows that there are over 2 034 651 stars in the galaxy. What is the value of the 3 in this number?

    a) three thousand

    b) thirty thousand

    c) thirty four thousand

    d) three hundred thousand

11. What is the value of $3\frac{3}{4} - 2\frac{1}{4}$?

    a) $1\frac{1}{2}$

    b) $1\frac{3}{4}$

    c) $2\frac{1}{4}$

    d) $2\frac{3}{4}$

12. What is the value of $2\frac{1}{3} + 4\frac{1}{2}$?

    a) $6\frac{1}{6}$

    b) $6\frac{1}{5}$

    c) $6\frac{2}{5}$

    d) $6\frac{5}{6}$

13. What is the value of $\frac{1}{3} \times \frac{1}{2}$?

    a) 6

    b) $\frac{1}{6}$

    c) $\frac{5}{30}$

    d) $\frac{1}{5}$

14. Mr. Phillips needs $2\frac{1}{3}$ m of fabric to make a shirt.

    How many similar shirts can be made from 35m of material?

    a) 37 shirts

    b) 15 shirts

    c) 18 shirts

    d) 32 shirts

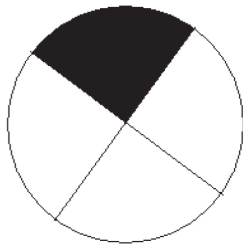15. Express 3.25 as a fraction in its lowest term?

   a) $3\dfrac{1}{4}$

   b) $3\dfrac{3}{4}$

   c) $3\dfrac{1}{2}$

   d) $3\dfrac{2}{5}$

16. What is the product of 123 and 2.8?

   a) 3.444

   b) 34.44

   c) 344.4

   d) 3444

Use the diagram to answer question 17

17. If the shaded portion of the circle represents 17 students.
    How many students are there in all?

   a) 17

   b) 34

   c) 51

   d) 68

18. Three students collected 2 153 counters. One collected 635 and another collected 819.
    How many counters did the third student collect?

   a) 699

   b) 729

   c) 1434

   d) 1719

19. Claudia wants to pack 206 oranges into some boxes.
    What is the minimum number of boxes that she needs if each box can hold 12 oranges?

    a) 19

    b) 18

    c) 17

    d) 16

20. Which unit would you use to measure the following items: water, milk and soda?

    a) metre

    b) kilogram

    c) grams

    d) litre

21. Which of the following shows another way of writing 6 kilolitres?

    a) 60 L

    b) 600 L

    c) 6000 L

    d) 60000L

22. A tree was 5.4 m tall 5 years ago. It grows an average height of 25 cm every year.
    How tall is the tree now?

    a) 5.65 m

    b) 6.29 m

    c) 6.65 m

    d) 7.9 m

23. Which of the following is associated with the prefix centi?

    a) 100

    b) 0.01

    c) 0.001

    d) 0.1

24. Marian bought 1 kg and 800 g of flour on Monday, while on Tuesday she bought 3 kg and 300g. What was the total amount of flour she bought?

    a) 3kg   500g

    b) 4kg   100g

    c) 4 kg   500g

    d) 5kg   100g

25. How would you find the area of the triangle below?

    a) 6×8 m^2

    b) $\dfrac{6 \times 8}{2}$ m^2

    c) $6 \times 8 \times 2$ m^2

    d) $6 \times 8 \times 10$ m^2

6 cm   10 cm

8cm
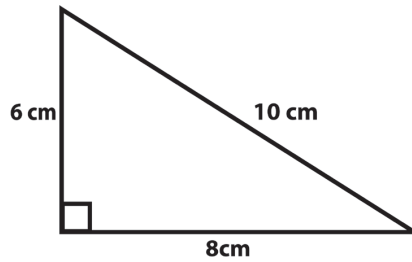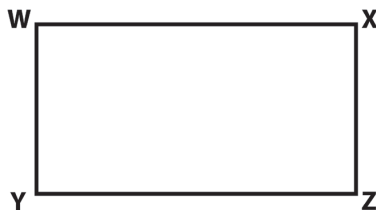
26. How many millimetres are equivalent to 30 centimetres?

    a) 3 mm

    b) 30 mm

    c) 300 mm

    d) 3000 mm

27. The temperature in Canada was 10°C below zero. The next morning it was 17°C below zero. What is the difference in the temperature?

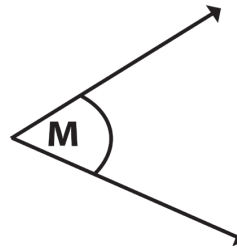   a) 7° C

    b) 3° C

    c) −7° C

    d) −3° C

28. In the diagram below, side WX measures 14 cm. Side XZ is half the length of side WX. What is the perimeter of the shape?

    a) 14 cm

    b) 28 cm

    c) 42 cm

    d) 56 cm

W   X

Y   Z

29. What is the best estimate of the Angle M?

    a) less than 90^0

    b) equal to 90^0

    c) greater than 90^0 but less than 180^0

    d) greater than 180^0 but less than 360^0

30. Which of the following sets of interior angle measurements would most likely be that of an isosceles triangle?
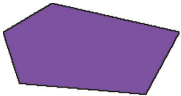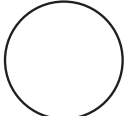
    a) $90°, 45°, 45°$

    b) $60°, 60°, 60°$

    c) $100°, 30°, 50°$

    d) $120, 20°, 40°$

31. Which statement about the trapezoid is true?

    a) the trapezoid has 3 acute angles

    b) the trapezoid has 4 sides that are parallel

    c) the trapezoid has 2 right angles

    d) the trapezoid has 2 obtuse angles

32. Which of these shapes is NOT an example of a polygon?

a)   b)   c)   d)

33. Which expression represents the product of n and 25?

    a) $25n$

    b) $25 - n$

    c) $25 + n$

    d) $25 \div n$

34. Which situation best describes the expression 4 + x?

    a) 4 children and x adults in a room

    b) A total number of books on a shelf and x are missing

    c) A total of 4 cars in a parking lot

    d) A total of 4 lost socks

35. What is the value of p, if $3p + 6 = 12$?

    a) 9

    b) 6

    c) 3

    d) 2

Bobby obtained the scores below on his tests. Use these scores to answer questions 36 and 37.

96, 87, 75, 82, 87

36. What is the range of Bobby's score?

    a) 9

    b) 21

    c) 87

    d) 96

37. What is the median of the set of scores?

    a) 96

    b) 87

    c) 85

    d) 75

Use the following information to answer questions 38 and 39. A bag contains the following items: 3 red pens, 2 blue pens, 4 white pens and 3 black pens.

38. If you were to choose one pen at random, which pen are you most likely to choose?

    a) a red pen

    b) a blue pen

    c) a white pen

    d) a black pen

39. What is the probability of choosing a white pen?

   a) $\dfrac{1}{4}$

   b) $\dfrac{1}{6}$

   c) $\dfrac{1}{3}$

   d) $\dfrac{1}{2}$

Use the table below to answer questions 40 and 41

No of books borrowed	0	1	2	3	4	5	6
No. of students	3	7	9	5	10	6	3

A librarian recorded the number of books borrowed by pupils of Primary 5B in the table above.

40. How many pupils borrowed 3 or more books?

   a) 5

   b) 15

   c) 19

   d) 24

41. What was the total number of books borrowed by the pupils of Primary 5B?

   a) 128

   b) 43

   c) 21

   d) 6

The pictograph shows students attendance at school for 5 days.
Use the diagram below to answer questions 42 and 43.

Monday	😐 😐 😐 😐 😐
Tuesday	😐 😐 😐
Wednesday	😐 😐 😐 😐 😐 😐
Thursday	😐 😐 😐 😐
Friday	😐 😐
Key	😐 =15 students

42. On which day did 75 students attend school?

    a) Monday

    b) Tuesday

    c) Wednesday

    d) Thursday

43. What is the mean attendance for Monday and Tuesday?

    a) 40

    b) 50

    c) 60

    d) 70

Use the Table to answer question 44
The table shows the scores of students on a Mathematics Test

Students	Scores
Paul	89
Jim	34
Pam	72
Jill	34
Bob	20

44. Which statement is true about the data?

    a) 3 students got the same score on the test

    b) 2 students scored more than 72 on the test

    c) 3 students scored more than 50 on the test

    d) 3 students scored less than 50 on the test

SAMPLE END OF YEAR TEST – SECTION B

Grade Five　　　　　　　Mathematics　　　　　Sample End of Year Test

Name: _____　Date: _____

SECTION B

ANSWER ALL QUESTIONS IN THIS SECTION

1.　Observe the following Venn diagram and then use it to answer the questions below.
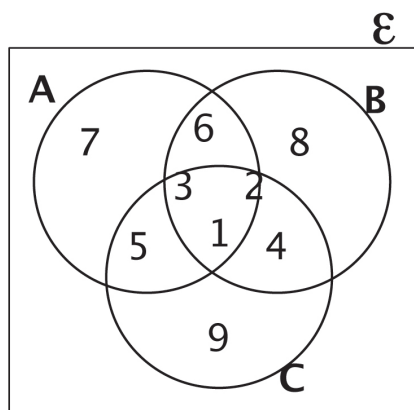
a)　What are the members of Set A?

　　_____

b)　What are the members of the Universal Set?

　　_____

c)　What are the members of A ∩ B?

　　_____

2. Read the price list and answer the questions below.

Price List

Bread	$85.40
Butter	$67.20
Syrup	$55.80
Cheese	$25.30

Paul bought 2 breads, 1 pack of butter, 2 bottles of syrup and 3 slices of cheese and got $74.50 change. How much money did he have in the beginning?   (Show working) (3 marks)

_____

3. Mother bought a carpet and placed it in her living room. She then placed a table in the middle of the carpet?
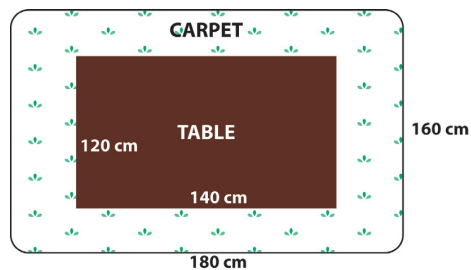
a) What is the area of the table? _____ (1 mark)

b) What is the area of carpet? _____ (1 mark)

c) What is the area of the uncovered section of the carpet? _____ (2 marks)

4. a) If **x** = 2, **y** = 3 and **z** = 4, find the value of $\dfrac{y}{z} - \dfrac{x}{z}$ (2 marks)

_____

b) David's father is 49. He is 15 years older than twice David's age. How old is David? (2 marks)

_____

5. Use the circle below to answer the following questions:
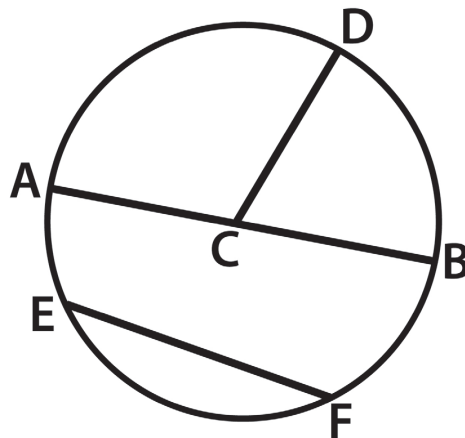
a) Name the part of the circle labeled EF_____ (1 mark)

b) Identify AB and CD then explain the relationship between both parts.

_____ (2 marks)

MARKS	

ANNUAL NATIONAL ASSESSMENT 2013
GRADE 5 MATHEMATICS TEST

MARKS: 60

TIME: 1½ hours

PROVINCE_____

REGION _____

DISTRICT_____

SCHOOL NAME _____

EMIS NUMBER (9 digits)

CLASS (e.g. 5A) _____

SURNAME _____

NAME_____

GENDER (✓)

BOY		GIRL	

DATE OF BIRTH

C	C	Y	Y	M	M	D	D

This test consists of 12 pages, excluding the cover page.

Practice exercise

Circle the letter of the correct answer.

8 x 6 =

A   48
B   84
C   72
D   60

You have answered correctly if you have circled $\left(\text{A}\right)$ above.

The test starts on the next page.

1.   Circle the letter of the correct answer.

   1.1   4 500 ; 4 625 ; 4 750 ; 4 875 ; _____ ; 5 125.

            The missing number in the above number sequence is:

            A   4 975

            B   5 000

            C   5 050

            D   5 025   (1)

   1.2   Which number consists of the following:

            6H + 4Th + 2T + 9Tth + 5U?

            A   49 625

            B   94 265

            C   94 562

            D   94 625   (1)

   1.3
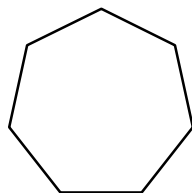
            The above shape is called a/an …

            A   hexagon.

            B   pentagon.

            C   heptagon.

            D   octagon.   (1)

1.4   The third multiple of 12 is:

A   24

B   36

C   48

D   12   (1)

1.5

The above object has …

A   only flat faces.

B   only curved faces.

C   curved and flat faces.

D   no faces.   (1)

1.6   The distance from Johannesburg to Cape Town is 1 405 …

A   millimetres.

B   kilometres.

C   centimetres.

D   metres.   (1)

1.7
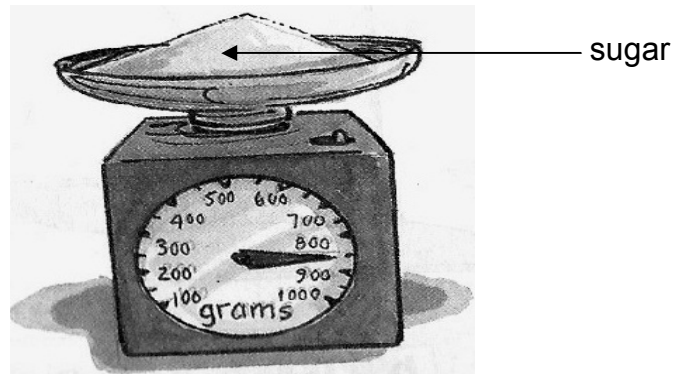
The mass of the sugar shown on the above scale is:

A   850 g

B   85 g

C   850 kg

D   805 g   (1)

1.8
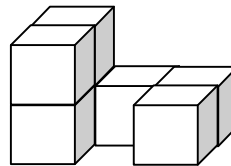
Which one of the following 2-D shapes shows the front view of the above 3-D object?

A

B

C

D

(1)

2.   Complete:

2.1   33 754 rounded off to the nearest 5   ≈ _____   (1)

2.2   99 999 rounded off to the nearest 1 000 ≈ _____   (1)

3.   Write down the value of the underlined digit in the number 2̲73 456.

_____   (1)

4.   Replace the * by **>** , **<** or **=** to make the following statement true:

$\dfrac{3}{8}$ * $\dfrac{1}{2}$ _____   (1)

5.   Which factor of 18 is missing in the list 1, 2, 3, 4, 6, 18? _____   (1)

6.   Balls are arranged in groups as indicated in the table below. Fill in the missing numbers on the table.

Group	1	2	3	9	
Number of balls	3	5	7		51

(2)

7.   True or False?

7.1   51 + 22 = 22 + 51   _____   (1)

7.2   24 ÷ 5 = 5 ÷ 24   _____   (1)

7.3   3(5 +6) = (3 x 5) + (3 x 6) _____   (1)

8.   Calculate the answers for questions 8.1–8.6.

    8.1   11 523 + 21 275 + 7 356
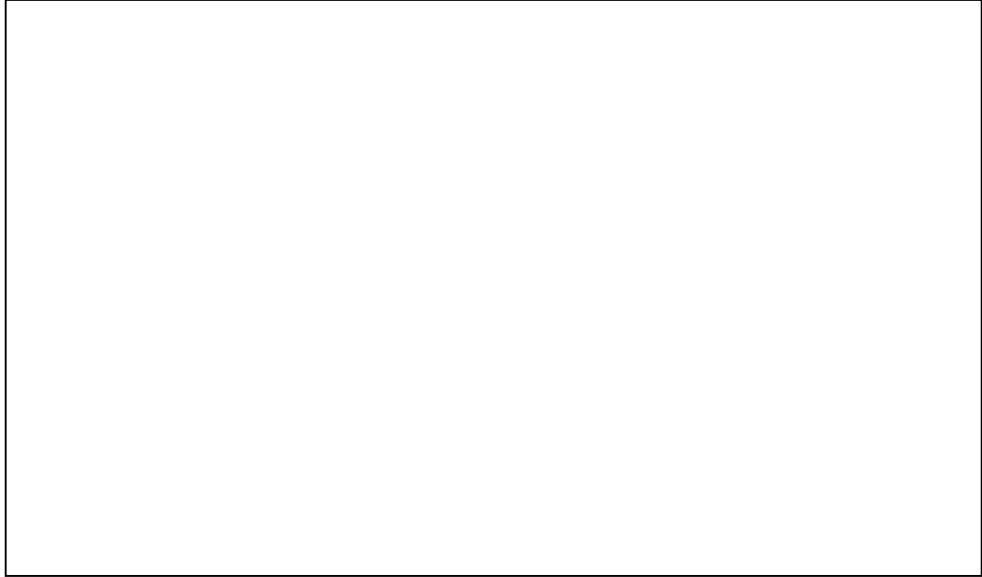
    (2)

    8.2   69 157 - 17 239

    (2)
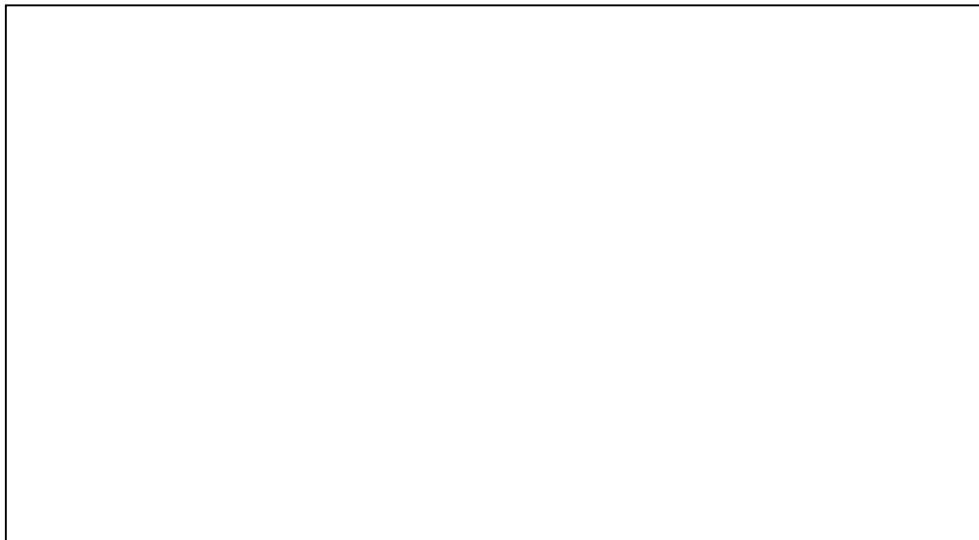
8.3   976 x 54

(3)

8.4   737 ÷ 9

(3)

8.5 $6\frac{1}{7} + 2\frac{2}{7}$

(2)

8.6 $3\frac{3}{5} - 1\frac{1}{5}$

(2)

9.   What will the next number in the number pattern be?
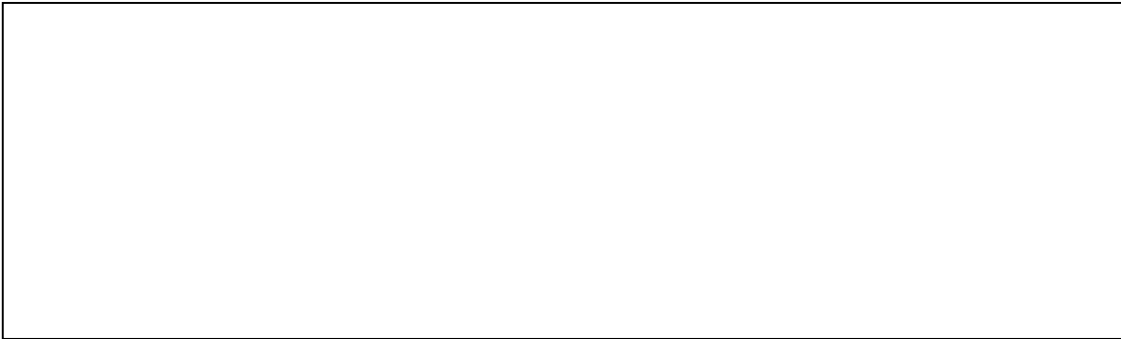
1 ; 3 ; 2 ; 4 ; 3 ; 5 ; ____.   (1)

10.   Draw the first 2 diagrams in the following diagram pattern:
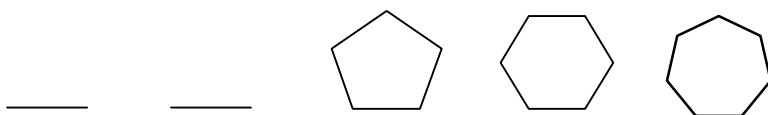
____   ____   (2)

11.   Mr Mabuzi earned R4 200 for working 60 hours. How much did he earn per hour?

(2)

12.   Write an open number sentence for the following sum:

The sum of four numbers is 20 500. Three of the numbers are 2 341, 578 and 10 690. What is the fourth number?
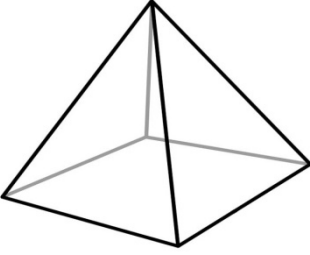
_____   (2)

13.   Mr Abrahams bought tickets for the Justin Bieber concert for the 4 members of his family at R320 each. How much did the 4 tickets cost altogether?

(2)

14.   Complete the table:

Object	Name of object	Number of faces	Name the shape(s) of the faces
	Square-based pyramid		

(3)

15.   Draw the reflection of the quadrilateral on the dotted line.

(1)

16.

19:10
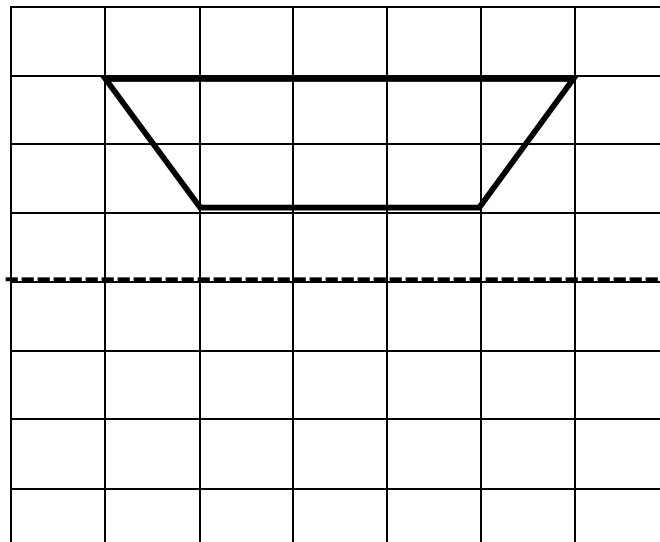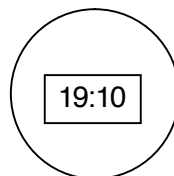
Write the time on the above digital clock face in analogue time.

_____   (1)

17. Use the list of the times taken by 4 athletes in a race to answer the question that follows.

Name of athlete	Time taken
Kayla	41:15 sec
Zaheda	40:45 sec
Faeeza	38:10 sec
Lindi	39:40 sec

What is the time difference between the runner who came first and the runner who came fourth?

(2)

18. Complete: 3 460 mℓ = _____ ℓ _____ mℓ. (2)

19. Look at the following weather chart below and answer the questions that follow.

WEATHER CHART

	MONDAY	TUESDAY
Durban	17⁰C–9⁰C	22⁰C–26⁰C
Cape Town	11 ⁰C–15⁰C	15 ⁰C–17 ⁰C

19.1 What was the maximum temperature in Durban on Monday?

_____ (1)

19.2 What was the minimum temperature in Cape Town on Tuesday?

_____ (1)

20.   Study the following pictograph below and then answer the questions that follow.

NUMBER OF GLASSES OF JUICE SOLD

Monday	🥛 🥛 🥛
Tuesday	🥛 🥛 🥛 🥛
Wednesday	🥛 🥛 🥛 🥛 🥛
Thursday	🥛 🥛 🥛 🥛
Friday	🥛 🥛 🥛 🥛 🥛

Key: Each 🥛 represents 10 glasses of juice
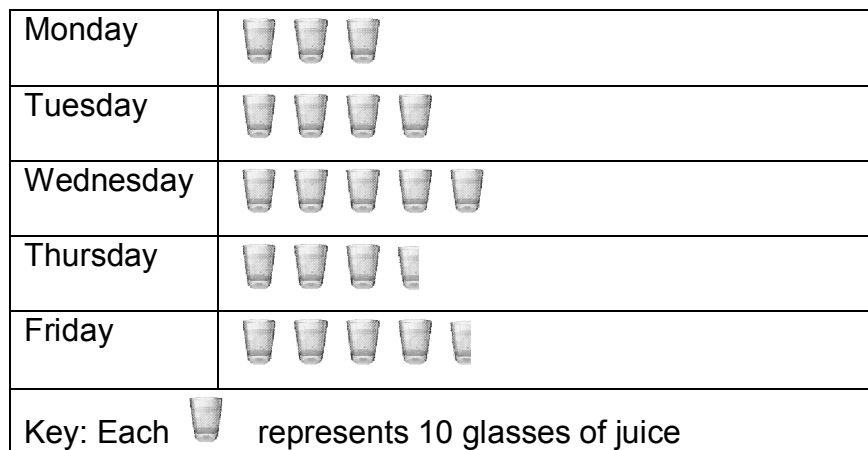
20.1   On which day were the most glasses of juice sold?

_____   (1)

20.2   Draw tally marks to show how many glasses of juice were sold on Thursday.

_____   (2)

20.3   How many glasses of juice were sold on Friday?

_____   (1)

20.4   If each glass of juice costs R2,00, how much was paid for the juice on Monday?

_____   (2)

21.   How many rectangles in total are in this diagram?
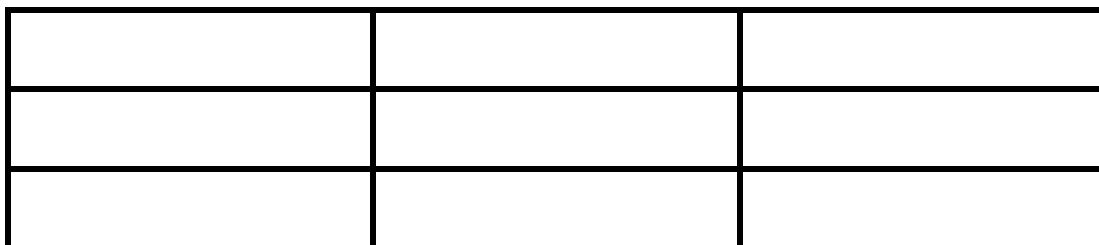
(2)

The number of rectangles = _____

TOTAL: 60

ANNUAL NATIONAL ASSESSMENT

GRADE 5

MATHEMATICS

SET 1: 2012 EXEMPLAR

GUIDELINES FOR THE USE OF ANA EXEMPLARS

1. General overview

The Annual National Assessment (ANA) is a summative assessment of the knowledge and skills that learners are expected to have developed by the end of each of the Grades 1 to 6 and 9. To support their school-based assessments and also ensure that learners gain the necessary confidence to participate with success in external assessments, panels of educators and subject specialists developed exemplar test questions that teachers can use in their Language and Mathematics lessons. The exemplar test questions were developed based on the curriculum that covers terms 1, 2 and 3 of the school year and a complete ANA model test for each grade has been provided. The exemplars, which include the ANA model test, supplement the school-based assessment that learners must undergo on a continuous basis and does not replace the school based assessment.

2. The structure of the exemplar questions

The exemplars are designed to illustrate different techniques or styles of assessing the same skills and/or knowledge. For instance, specific content knowledge or a skill can be assessed through a multiple-choice question (where learners select the best answer from the given options) or a statement (that requires learners to write a short answer or a paragraph) or other types of questions (asking learners to join given words/statements with lines, to complete given sentences or patterns, to show their answers with drawings or sketches, etc.). Therefore, teachers will find a number of exemplar questions that are structured differently but are targeting the same specific content and skill. Exposure to a wide variety of questioning techniques or styles gives learners the necessary confidence to respond to different test items.

3. Links with other learning and teaching resource materials

For the necessary integration, some of the exemplar texts and questions have been deliberately linked to the grade-relevant workbooks. The exemplars have also been aligned with the requirements of the National Curriculum Statement (NCS), Grades R to 12, the Curriculum and Assessment Policy Statements (CAPS) for the relevant grades and the National Protocol for Assessment. These documents, together with any other that a school may provide, will constitute a rich resource base to help teachers in planning lessons and conducting formal assessment.

4. How to use the exemplars

While the exemplars for a grade and a subject have been compiled into one comprehensive set, the learner does not have to respond to the whole set in one sitting. The teacher should select exemplar questions that are relevant to the planned lesson at any given time. Carefully selected individual exemplar test questions, or a manageable group of questions, can be used at different stages of the teaching and learning process as follows:

4.1   At the beginning of a lesson as a diagnostic test to identify learner strengths and weaknesses. The **diagnosis** must lead to prompt **feedback** to learners and the development of **appropriate lessons** that address the identified weaknesses and consolidate the strengths. The diagnostic test could be given as homework to save instructional time in class.

4.2   During the lesson as short formative tests to assess whether learners are developing the intended knowledge and skills as the lesson progresses and ensure that no learner is left behind.

4.3   At the completion of a lesson or series of lessons as a summative test to assess if the learners have gained adequate understanding and can apply the knowledge and skills acquired in the completed lesson(s). Feedback to learners must be given promptly while the teacher decides on

whether there are areas of the lesson(s) that need to be revisited to consolidate particular knowledge and skills.

4.4   At all stages to expose learners to different techniques of assessing or questioning, e.g. how to answer multiple-choice (MC) questions, open-ended (OE) or free-response (FR) questions, short-answer questions, etc.

While diagnostic and formative tests may be shorter in terms of the number of questions included, the summative test will include relatively more questions, depending on the work that has been covered at a particular point in time. It is important to ensure that learners eventually get sufficient practice in responding to full tests of the type of the ANA model test.

5.   Memoranda or marking guidelines

A typical example of the expected responses (marking guidelines) has been given for each exemplar test question and for the ANA model test. Teachers must bear in mind that the marking guidelines can in no way be exhaustive. They can only provide broad principles of expected responses and teachers must interrogate and reward acceptable options and variations of the acceptable response(s) given by learners.

6.   Curriculum coverage

It is extremely critical that the curriculum must be covered in full in every class. The exemplars for each grade and subject do not represent the entire curriculum. They merely **sample** important knowledge and skills and covers work relating to terms 1, 2 and 3 of the school year. The pacing of work to be covered according to the school terms is specified in the relevant CAPS documents.

7.   Conclusion

The goal of the Department is to improve the levels and quality of learner performance in the critical foundational skills of literacy and numeracy. ANA is one instrument the Department uses to monitor whether learner performance is improving. Districts and schools are expected to support teachers and provide necessary resources to improve the effectiveness of teaching and learning in the schools. By using the ANA exemplars as part of their teaching resources, teachers will help learners become familiar with different styles and techniques of assessing. With proper use, the exemplars should help learners acquire appropriate knowledge and develop relevant skills to learn effectively and perform better in subsequent ANA tests.

1. **Recognise and represent whole numbers to at least 6 digits**

1.1   Fill in the missing number.

4 210 ; 4 207 ; 4 204 ; _____ ; 4 198   (1)

1.2   Write down the next 2 numbers in the sequence and state the rule

used to find the number.

697 ; 699 ; 701 ; 703 ; _____ ; _____   (2)

1.3   Write down the multiples of three from 474 to 483.   (1)

1.4   Write down the multiples of 5 between 718 and 733.   (1)

1.5   Complete: 5 720 is 100 less than _____   (1)

1.6   Fill in the numbers represented by A and B on the number line.

                                                                            (2)
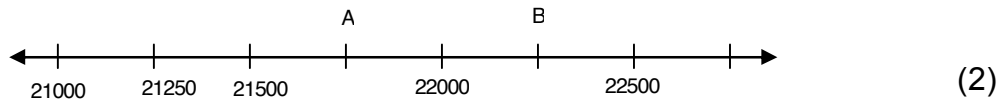
2.

2.1   Which number is represented by:

40 000 + 2 000 + 5 + 60 + 700?   (1)

2.2   Mark the number in the frame that represents:

Six hundred and twenty three thousand nine hundred and two

| 662 922 | 623 902 | 632 209 |
| 692 023 | 623 209 | 623 920 |

                                                                            (1)

2.3   Write each of the following numbers in words.

a.   42 749

b.   348 706   (2)

2.4   Three hundred and forty eight thousand seven hundred and thirty

six written using digits is _____   (1)

2.5   Arrange the following numbers from smallest to biggest.

36 589 , 35 698 , 38 569 , 39 958   (1)

2.6 Write down the biggest number and the smallest number that can be made using the digits 5, 9, 6 , 1 , 7 , 2 each only once. (2)

3.

3.1 Calculate:

a. 23 + 0   b. 23 – 0

c. 25 625 – 25625   d. 1298 – 0 (4)

3.2 a. What happens to a number when zero is added to it?

b. What happens to a number when you subtract a number from itself? (3)

c. What happens to a number when you subtract zero from it?

3.3 Calculate:

a. 1 x 1 x 1   b. 3 x 0 x 3 (2)

3.4 a. What happens to a number when you multiply it by 1?

b. What is the product of a number and zero? (2)

4.

4.1 Is 36 + 24 equal to 24 + 36? (1)

4.2 If 17 x 3 = 51 what does 3 x 17 equal? (1)

4.3 Complete:

2(5+3) = (2x____) + (2 x ____)

     = _____ + _____

     = 16 (3)

4.4 Is 9÷3 equal to 3 ÷9? (1)

5.

5.1 Which of the numbers 1, 6, 9, 7, 8 is a factor of 21? (2)

5.2 Which of the following numbers in the frame are multiples of 3?

46   49

72   68   54

(2)

4
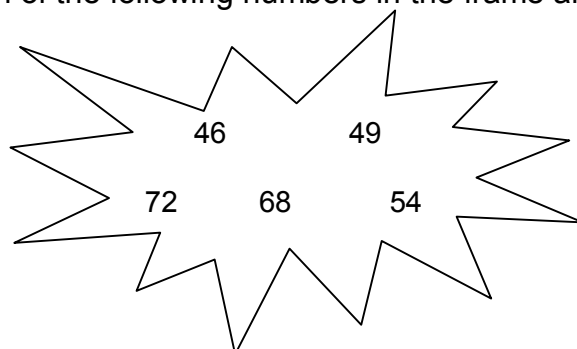
5.3   Circle the multiples of 8 shown on the number line.

| 4   8   12   16   20   24   28 |
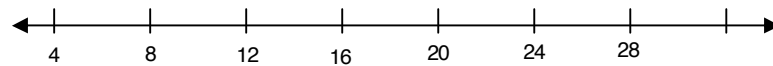
(3)

6.   **Odd and even numbers**

6.1   _____ is the next odd number after 5335.   (1)

6.2   The even number just before 2846 is _____   (1)

6.3   What is the biggest odd number you can make with   1 , 3 , 5 , 6 ,   (1)

6.4   2?   (1)

        Arrange the digits 4 , 1 , 6 , 7 to make the smallest even number.

7.   **Place value**

7.1   Draw an abacus to represent 79 342.   (1)

7.2   Which number is represented by:

        (4 x 10) + (2 x 10 000) + (5 x 1) + (3 x 100) + (6 x 1000)?   (1)

7.3   Which number is missing?

        33 413 = 30 000 + _____ + 3 + 400 + 10   (1)

7.4   What is the value of the underlined digit in the number   97 406?   (1)

7.5   Write 3 742 in expanded notation.   (1)

8.   **Common fractions and decimal fractions**

8.1   Look at the containers and then answer the questions.
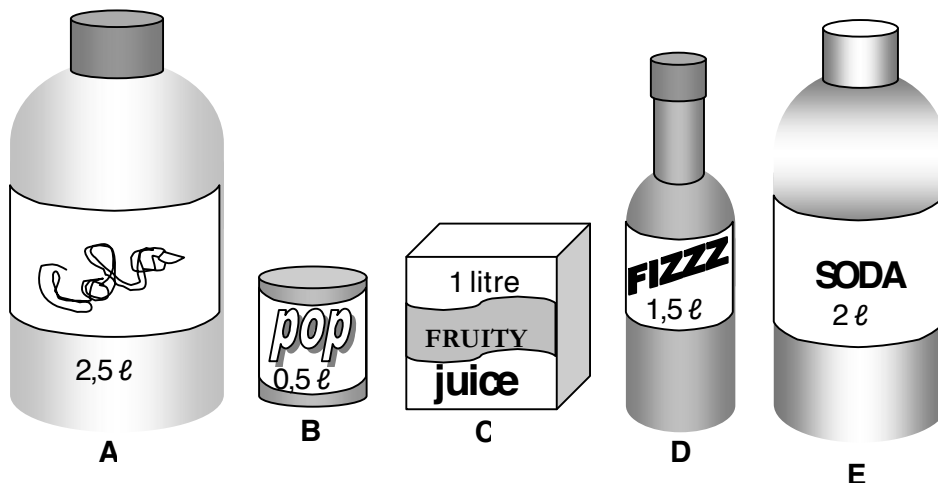
a. Which container holds between $\frac{1}{2}$ litre and 1,5 litres?

b. Which container holds less than 1 litre?

c. How many Pop cans will you need to fill the soda bottle?   (3)

5

8.2 Use the fraction strips to answer the questions.
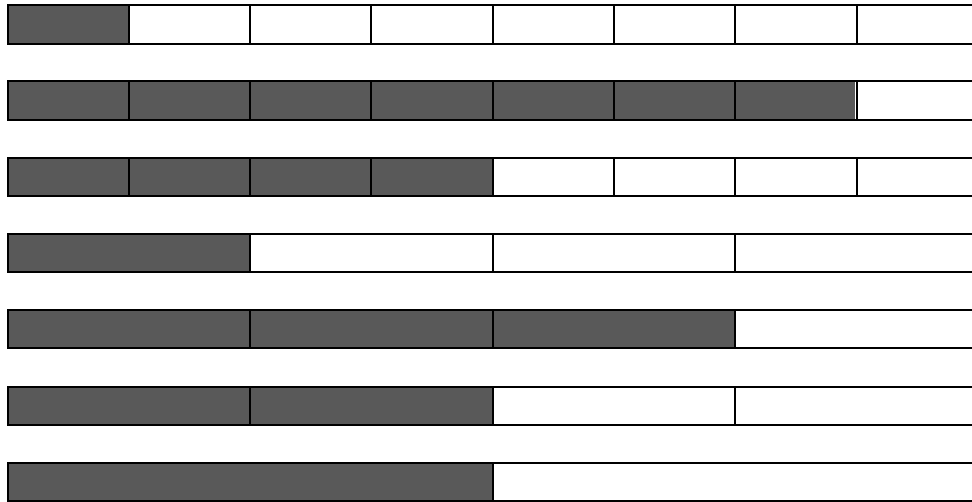
a. Fill in > , < , = to make correct statements.

(i) $\dfrac{1}{4}$ ☐ $\dfrac{3}{4}$ (1)

(ii) $\dfrac{4}{8}$ ☐ $\dfrac{2}{4}$ (1)

b. Write down 2 fractions that are smaller than $\dfrac{1}{2}$. (2)

c. Write down one fraction that is bigger than $\dfrac{3}{4}$. (1)

d. Which fractions are equal to $\dfrac{2}{4}$? (2)

8.3 Write down the fourth term in the sequence.
$\dfrac{9}{11}$; $\dfrac{7}{11}$; $\dfrac{5}{11}$; ……… (1)

8.4 Which fraction comes next in the given sequence?

$\dfrac{2}{12}$; $\dfrac{5}{12}$; $\dfrac{8}{12}$; …………… (1)

9. **Rounding off to the nearest 5, 10, 100, 1 000**

9.1 Use the number line to answer the following questions.
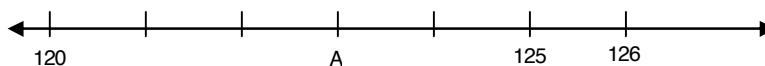
a. Is A closer to 120 or 125?

b. 126 rounded off to the nearest 10 ≈ _____. (2)

9.2   Answer the following questions and give a reason for your answer.

    a. 74 rounded off to the nearest 10 ≈ _____

    b. 3 097 rounded off to the nearest 1 000 ≈ _____   (2)

9.3   Round each amount off to the nearest rand.

    a. R53,64   ≈   _____

    b. R6 348, 35 ≈   _____   (2)

10.   **Add and Subtract whole numbers**

10.1   Fill in the missing number.

    3 576 + _____ = 6 892   (2)

10.2   Calculate   1 673 + 374.   (2)

10.3   Find the sum of 3624 and 2304.   (2)

10.4   Ann is a flower seller. Today she sold 1 403 flowers and yesterday she sold 2 364 flowers. How many more flowers did she sell yesterday than today?   (3)

10.5   Sandile sells beads at the craft market. The table shows how many beads she sold during a 5-day festival.

Monday	Tuesday	Wednesday	Thursday	Friday
1 213	643	812	417	2068

    a. How many beads did she sell altogether on Monday, Tuesday and Wednesday?   (3)

    b. How many more beads did she sell on Friday than on Wednesday?   (3)

11.   **Common fractions**

11.1   Answer the following questions, a. to f., by calculating.

    a. $\dfrac{5}{6} + \dfrac{1}{6}$ (1)

    b. $\dfrac{8}{11} - \dfrac{3}{11}$ (1)

    c. $3\dfrac{2}{5} + 5\dfrac{3}{5}$ (2)

    d. $9\dfrac{3}{12} - 1\dfrac{4}{12}$ (2)

e. $\dfrac{1}{6}$ of 24 (2)

f. $\dfrac{2}{5}$ of R30 (3)

11.2 Mum baked a cake and cut it into 8 equal parts. Dad had 3 pieces. You had 1 piece. What fraction of the cake is left? (3)

11.3 At the Moses Mabhida Stadium in Durban, $\dfrac{1}{3}$ of the 630 parking bays have been reserved for officials. How many parking bays are left for the public? (4)

12. **Multiplication**

12.1 Answer the following questions by calculating.

a. 5 x 20 (1)

b 6 x 400 (1)

c. __ x 3 000 =15 000 (1)

d. 5 487 x 62 (3)

12.2 Complete:

562 x 5

=(500 +__+ 2) x 5

=(500 x___) + (60 x ___) + (___ x 2)

=_____

= _____ (4)

12.3 Use the distributive method to calculate 373 x 26. (4)

12.4 Write down all the factors of 54. (2)

12.5 Use the factor method to calculate 237 x 42. (3)

13. **Division**

13.1 Use the factor method to calculate 728 ÷ 28. (3)

13.2 Calculate 289 ÷ 17. (2)

13.3 Calculate the quotient.

8

$21\overline{)735}$ (3)

13.4 Use 2 different methods to divide 805 by 35. (3)

14. **Properties of numbers**

14.1 State whether the statements are TRUE OR FALSE

   a. 7 x 3 + 6 = 3 + 7 x 6 _____

   b. 3(5 +6) = (3 x 5) + (3 x 6) _____

   c. 51 + 22 = 22 + 51 _____

   d. 24 ÷ 5 = 5 ÷ 24 _____

   e. 61 x 0 = 610 x 0 _____ (5)

14.2 Complete:
   a. 9 + 2 = 2 + ___

   b. 7 + 1 = ___ + 7

   c. ___ x 4 = 4 x 6

   d. 8 x ___ = 5 x ____ (4)

14.3 Complete:

   a. 2 x (3 x 4) = (2 x 3) x (___)

   b. 1 + (3 + 5) = (1 + 3) + (___)

   c. 6 x (2 + 4) = (6 x 2) + (_____) (3)

15. **Ratio and Rate**

15.1 What is the ratio of the number of boys to the number of girls in your class? (1)

15.2 To make cooldrink I add 2 litres concentrate to 4 litres of water, means I have mixed the concentrate and water in the ratio _____ . (1)

15.3 1 litre of juice costs R12,50.
   How much will you pay for 8 litres of the same juice? (3)

15.4 If 5 kg of sugar costs R40 what is the price per kg? (2)

15.5 Divide 200 objects into 5 equal groups. (1)

15.6 Share 300 apples equally amongst 20 people. (2)

9

15.7 Below is a list of the income and expenditure per month for Mr & Mrs Moeng.

Mr Moeng's salary	R10 200	Clothing	R1 847
Mrs Moeng's salary	R7 500	Transport	R1 280
Rental income	R2 150	Food	R2 624

    a.   What is their total income for one month? (2)

    b.   What is their total expenditure? (2)

    c.   How much money do they have left at the end of every month? (2)

16. Numeric and Geometric patterns

16.1 Extend the following patterns:

    a.   25; 50; 75 ___; ___ .

    b.   1994; 1998; 2002; _____; _____ .

    c.   99; 94; 89; ____; _____ . (3)

16.2 Identify the rule in each pattern.

    a.   21; 26; 31;

    b.   56; 49; 42; ……… (2)

16.3 Describe the relationship between the numbers in the top row and the bottom row in each table.

x	1	2	3	4
y	3	5	7	9

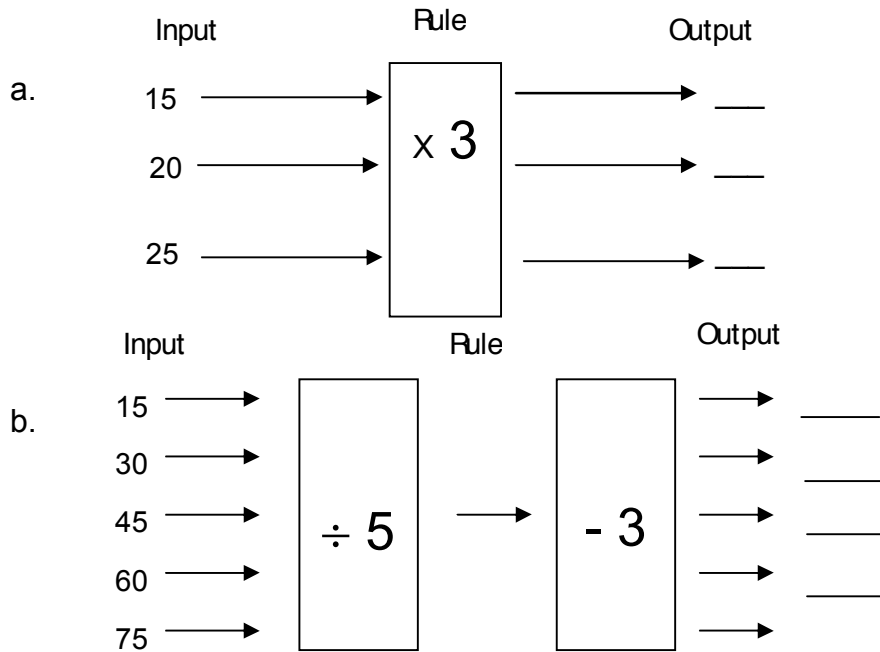| x	1	2	3	4
y	5	6	7	8

(2)

16.4 Complete the pattern:

_____ . (1)

16.5 Make two of your own patterns. (2)

17.   **Flow diagram and number sentences**

17.1   Complete the following flow diagrams.

a.
Input	Rule	Output
15	× 3	___
20		___
25		___

b.
Input	Rule		Output
15	÷ 5	- 3	___
30			___
45			___
60			___
75			

(8)

17.2   Write a number sentence for each of the following:

a.   There are 5 boys and 23 girls in a class. How many learners in the class?

b.   A mum buys 3 dozen sweets for her two kids. She decides to give 4 sweets to dad and then shares the rest equally between the two kids. How many sweets does each child get?

c.   There are 20 handbags with 5 lipsticks in each bag. How many lipsticks are there altogether?

d.   The sum of four numbers is 20500. Three of the numbers are 2341, 578 and 10690. What is the fourth number?

(4)

17.3   Write a number sentence and then calculate the answer.
Mrs Mashile bought world cup tickets for 29 soccer matches for herself and her husband at R160 each. How much did the tickets cost?

(4)
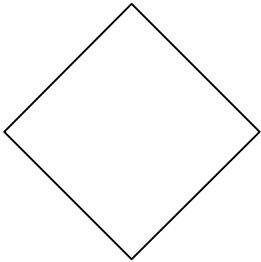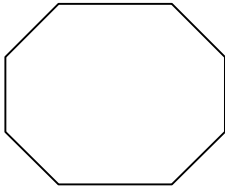
17.4   Write down the rule used in the flow diagram.

48		8
36		6
24		4
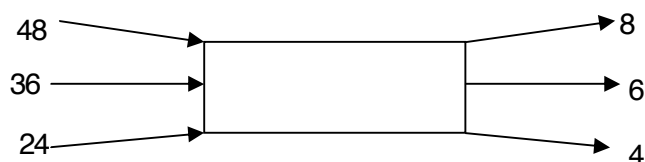
(1)

18. **2-D shapes, 3-D objects, symmetry and transformations**

18.1 Complete the table.

Shape	Name of shape	Number of sides	Number of angles

(6)

18.2 Write down how many right angles there are in each of the shapes.
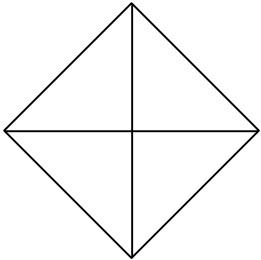
a.   b.

_____   _____   (2)

18.3
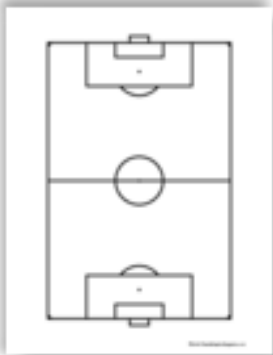
How many rectangles are there on the diagram of the soccer field?   (1)

_____
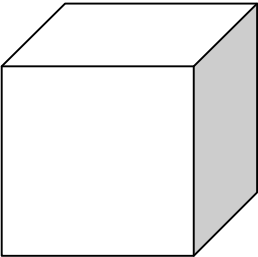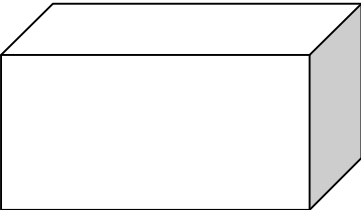
18.4

Name the 2-D shapes on the soccer ball. (2)

18.5

3-D object	Name of 3-D object	The name(s) of the shape(s) of the faces

(4)

19.

19.1   Draw all the lines of symmetry in the shape.
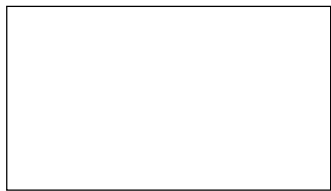
(2)

19.2
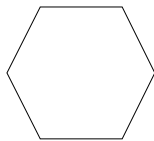
How many lines of symmetry does the above shape have? (1)

19.3   Draw a line of symmetry in the triangle.
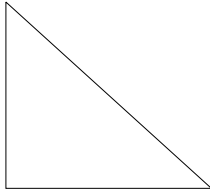
(1)

20.

20.1   Match the words in column B with the words in column A.

COLUMN A	COLUMN B
20.1 Rotate	a. slide
20.2 Translate	b. flip
20.3 Reflect	c. turn

(3)

20.2   Draw the next figure that follows in the space provided.
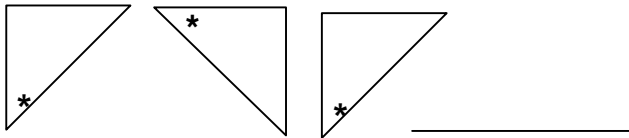
(1)

20.3   Reflect the shape about the dark vertical line.

(1)

14
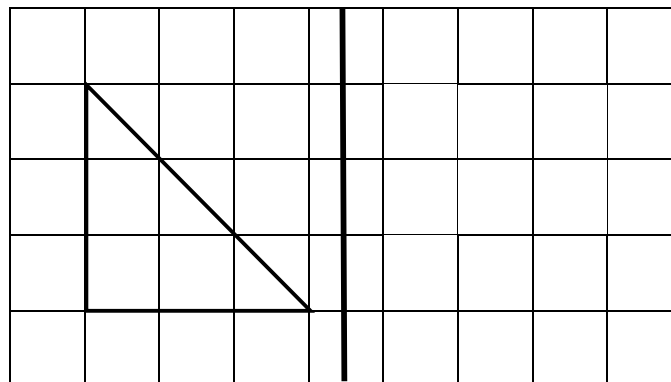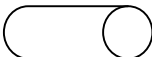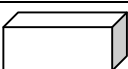
21. **Views and grid positions**

21.1 Use a dot to mark the position of the points   A4,   A1,   C1,   G3 and D2 on the grid.

	A	B	C	D	E	F	G
1							
2							
3							
4							

(5)

21.2 Figures and shapes are placed on a grid. Answer the questions that follow.

a. Name the object in

C5: _____

E2:_____

b. Give the position of the

Triangle: _____

Rectangle: _____

(4)

21.3

Left →   ← Right

Front
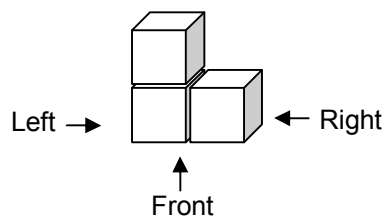
a. Draw the view of the object from the right.

b. Draw the view of the object from the back.

c. Draw the view of the object from the top.

(3)

15

21.4   Draw the view of the 3-D object from the top.
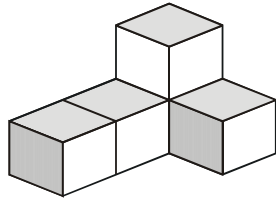
(1)

21.5   Draw the side view of the following shape.

Top view

Side view
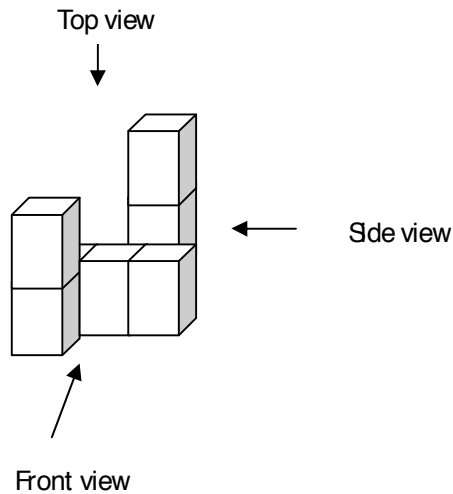
Front view   (1)

22.   Measurement

22.1   Complete the table:

NUMBER OF			
YEARS	CENTURY	DECADES	MONTHS
e.g. 100	1	10	1 200
50			
25			
75			

(9)

22.2   Write each 24-hour time in analogue time.

a.   06:00

b.   21:30

c.   23:15   (3)

22.3   Write each of the following in 24-hour time.

a.   Quarter past 5 in the evening.

b.   Quarter to 8 in the evening.

c.   Half past 2 in the morning.   (3)

22.4

19:10
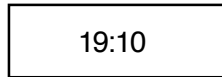
Write the digital time, shown above, as analogue time _____. (1)

22.5   Add: Subtract:

4 weeks 2d   13h 44min

9 weeks   3d   9h 35 min

_____   _____   (2)

23.

23.1   Choose the appropriate unit of measurement in each case.

Item	(m, cm, kg, mℓ , km, mm, ℓ)
Distance from Cape Town to East London	
Finger nail	
Bag of cement	
Cup of tea	

(4)

23.2   Edward sold 4 002 litres of paraffin in January, 98 000 millilitres of paraffin in February and 1, 703 kilolitres of paraffin in March. How many litres of paraffin did he sell altogether? (4)

23.3   Shade in the blocks in the table that give the total mass of the pumpkin.

2 kg

0,5 kg	250 g	200 g
0,25 kg	600 g	400 g

(2)

23.4   The length of my scarf is 2 metres. How long is it in centimetres? (1)

23.5   Which of the following temperatures would you consider as very cold?

2°C   12 °C   22 °C   (1)

24.

24.1   Rectangle ABCD is placed on a grid where 1 block = 1 cm x 1cm.
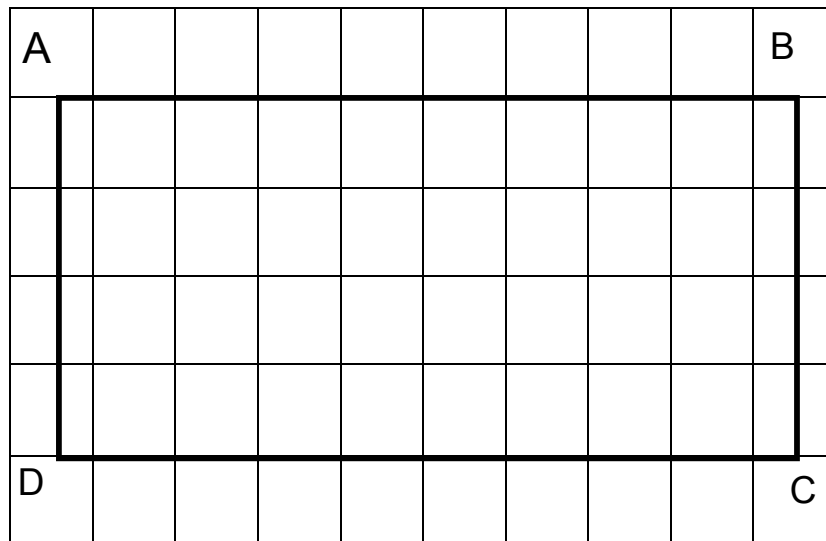
      a.   Write down the length of AB and BC.   (1)

      b.   Calculate the area of the rectangle ABCD.   (4)

24.2   Calculate the volume of a cube if the length of each face is 6 cm.   (3)

24.3   Calculate the volume of the prism below:
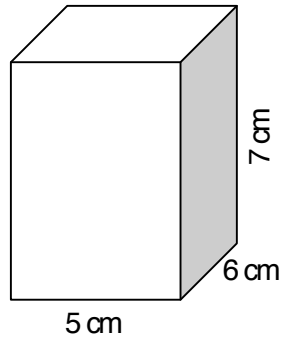
    (3)

25.   Data handling

25.1   Shereen asked each learner in her class what their favourite ice cream flavour was. She recorded the results in a table. Draw a bar graph to illustrate the data.

Ice cream flavours	Number of learners
Vanilla	12
Chocolate	9
Strawberry	6
Lime	3

    (3)

18

25.2 There are 50 learners in a class. They are working to improve their school environment.

- 17 are doing waste management
- 10 are making a vegetable garden
- 12 are planting trees
- 11 are responsible for water conservation

Complete the frequency table.

Environmental issue	Tally marks	Frequency
Waste management		17
Vegetable garden		10
Planting of tree		12
Water conservation		11

(4)

25.3 The following is a tally chart of soccer teams supported by the Grade 6A learners during the world cup 2010. The total number of Grade 6 learners in the school is 150.

Complete the frequency table.

Teams	Tally marks	Frequency
South Africa	HH HH II	12
Ghana		9
Brazil	HH HH I	
Spain		4
Argentina	HH	

a. Write down the mode of the data set.

b. What is the ratio of the number of the grade 6A learners to that of the grade 6 population? (6)

19

26.   **Probability**

26.1   Fill in a, b, c or d in the correct column to match the sentence with the
        probability.

        a.   The sun will shine tomorrow.

        b.   I can jump as high as the moon.

        c.   The children in grade 5 will never grow.

        d.   Exercise makes you fit.

Impossible	Certain

(4)

26.2   You have a bag that contains a 50c, a 20c, a R1 and a R2 coin.

        Circle the correct answer.

        Your chance of picking a R1 coin is:

        a. Possible
        b. Certain
        c. Impossible   (1)

26.3   What are the chances of throwing a 2 on a dice?   (1)

**Grade 5
Mathematics
Test Booklet**

Practice Test

Unit 1

Directions:

Today, you will take Unit 1 of the Grade 5 Mathematics Practice Test. You will not be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

If you do not know the answer to a question, you may go on to the next question. If you finish early, you may review your answers and any questions you did not answer in this unit ONLY. Do not go past the stop sign.

GO ON ▶

1. Which statement about the corresponding terms in both Pattern A and Pattern B is always true?

Pattern A: 0, 5, 10, 15, 20, 25, 30

Pattern B: 0, 10, 20, 30, 40, 50, 60

A. Each term in Pattern A is 2 times the corresponding term in Pattern B.

B. Each term in Pattern A is $\frac{1}{2}$ times the corresponding term in Pattern B.

C. Each term in Pattern A is 5 less than the corresponding term in Pattern B.

D. Each term in Pattern A is 10 less than the corresponding term in Pattern B.

GO ON ▶

2. An expression is shown.

$$\frac{5}{6} + \frac{3}{12}$$

Which expressions have like denominators that could be used as a next step to add the two fractions?

Select the **two** correct answers.

A. $\frac{5}{6} + \frac{1}{4}$

B. $\frac{5}{6} + \frac{3}{6}$

C. $\frac{10}{12} + \frac{3}{12}$

D. $\frac{5}{12} + \frac{6}{12}$

E. $\frac{5}{12} + \frac{6}{24}$

F. $\frac{20}{24} + \frac{6}{24}$

5

GO ON ▶

Use the information provided to answer Part A through Part C for question 3.

Shannon is building a rectangular garden that is 18 feet wide and 27 feet long.

3. **Part A**

Write an equation that represents the area of Shannon's garden. In your equation, let *g* represent the area of Shannon's garden. Then solve your equation.

Enter your equation and your solution in the space provided.

Part B

Shannon is putting a fence around the garden, except where there is a gate that is 3 feet wide.

One foot of the fence costs $43. The cost of the gate is $128.

Write an expression that represents the total cost of the fence and the gate.

Explain how you determined your expression.

Enter your expression and your explanation in the space provided.

Part C

Use your expression from Part B to find the total cost, in dollars, of the fence and the gate.

Enter your answer in the space provided.

GO ON ▶

4.   Which statement correctly compares two values?

A.   The value of the 6 in 26.495 is $\frac{1}{10}$ the value of the 6 in 17.64.

B.   The value of the 6 in 26.495 is 10 times the value of the 6 in 17.64.

C.   The value of the 6 in 26.495 is $\frac{1}{100}$ the value of the 6 in 17.64.

D.   The value of the 6 in 26.495 is 100 times the value of the 6 in 17.64.

5.   What is the volume of the rectangular prism in cubic units?

= 1 unit cube

Enter your answer in the box.

GO ON ▶
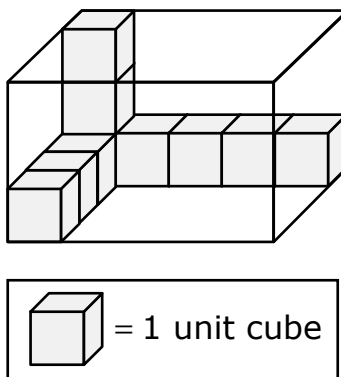
6. In this right rectangular prism, each small cube measures 1 unit on each side.
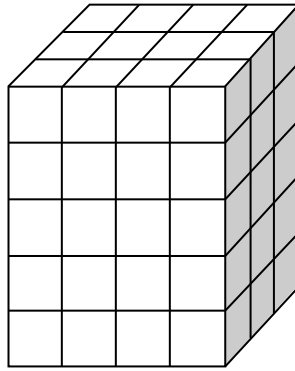
- What is the volume of the prism?
- Explain how you found the volume. You may show your work in your explanation.
- What would be the dimensions of a new right rectangular prism that has 20 fewer unit cubes than the original prism?
- Explain how you determined the dimensions of the new right rectangular prism.

Enter your answers and your explanations in the space provided.

7. Select the **two** correct statements.

A. The product of $\frac{3}{5}$ and 4 is greater than 4.

B. The product of $\frac{3}{5}$ and 4 is less than $\frac{3}{5}$.

C. The product of $1\frac{1}{2}$ and 2 is greater than $1\frac{1}{2}$.

D. The product of $1\frac{1}{2}$ and 2 is less than 2.

E. The product of $\frac{13}{4}$ and $\frac{5}{2}$ is greater than $\frac{13}{4}$.

F. The product of $\frac{13}{4}$ and $\frac{5}{2}$ is less than $\frac{5}{2}$.

GO ON ▶

8. Which figure is always a rectangle?

A. square

B. rhombus

C. quadrilateral

D. parallelogram

9. Which expression matches the statement, "the sum of 2 and 4 subtracted from 9"?

A. $2 + 9 - 4$

B. $9 - 2 + 4$

C. $9 - (2 + 4)$

D. $(2 + 4) - 9$

GO ON ▶

Use the information provided to answer Part A and Part B for question 10.

Diana works at a clothing store. She sold $\frac{1}{5}$ of the total number of green shirts on Monday and $\frac{3}{12}$ of the total number of green shirts on Tuesday.

10. Part A

What fraction of green shirts did Diana sell on Monday and Tuesday?

A. $\frac{8}{13}$

B. $\frac{4}{17}$

C. $\frac{5}{36}$

D. $\frac{27}{60}$

Part B

Diana sold $\frac{2}{15}$ of the total number of green shirts on Wednesday. What is the difference in the fraction of the total number of green shirts that were sold on Tuesday and Wednesday?

A. $\frac{7}{60}$

B. $\frac{5}{27}$

C. $\frac{1}{3}$

D. $\frac{1}{12}$

GO ON ▶

11. Greg is volunteering at a track meet. He is in charge of providing the bottled water. Greg knows these facts:

- The track meet will last 3 days.
- There will be 117 athletes, 7 coaches, and 4 judges attending the track meet.
- One case of bottled water contains 24 bottles.

The table shows the number of bottles of water each athlete, coach, and judge will get for each day of the track meet.

Bottled Water for Track Meet

Person Attending	Number of Bottles
Athlete	4
Coach	3
Judge	2

What is the **fewest** number of cases of bottled water Greg will need to provide for all the athletes, coaches, and judges at the track meet? Show your work or explain how you found your answer using equations.

Enter your answer and your work or explanation in the space provided.

GO ON ▶

12. Which of these are equal to 83.041?

Select the **two** correct answers.

    A. eighty-three and forty-one tenths

    B. $8 \times 10 + 3 \times 1 + 4 \times \frac{1}{10} + 1 \times \frac{1}{100}$

    C. eighty-three and forty-one hundredths

    D. $8 \times 10 + 3 \times 1 + 4 \times \frac{1}{100} + 1 \times \frac{1}{1,000}$

    E. eighty-three and forty-one thousandths

STOP

Unit 2

Directions:

Today, you will take Unit 2 of the Grade 5 Mathematics Practice Test. You will not be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

If you do not know the answer to a question, you may go on to the next question. If you finish early, you may review your answers and any questions you did not answer in this unit ONLY. Do not go past the stop sign.

GO ON ▶

13. Len walks $\frac{3}{10}$ mile in the morning to school. He walks $\frac{2}{5}$ mile in the afternoon to a friend's house.

Len says that he walks a total of $\frac{5}{15}$ mile in the morning and afternoon. Which **two** statements are true?

A. Since $\frac{3}{10}$ plus $\frac{2}{5}$ is $\frac{5}{15}$, the total of $\frac{5}{15}$ is reasonable.

B. Since $\frac{5}{15}$ is less than $\frac{2}{5}$, the total of $\frac{5}{15}$ is not reasonable.

C. The fractions $\frac{5}{15}$, $\frac{3}{10}$, and $\frac{2}{5}$ are all less than $\frac{1}{2}$, so the total of $\frac{5}{15}$ is reasonable.

D. The fraction $\frac{5}{15}$ is $\frac{1}{3}$, and $\frac{1}{3}$ is greater than $\frac{3}{10}$. Since $\frac{5}{15}$ is greater than one of the addends, the total of $\frac{5}{15}$ is reasonable.

E. The fractions $\frac{3}{10}$ and $\frac{2}{5}$ are each greater than $\frac{1}{4}$, so the total must be greater than $\frac{1}{2}$. The fraction $\frac{5}{15}$ is less than $\frac{1}{2}$, so the total of $\frac{5}{15}$ is not reasonable.

GO ON ▶

Use the information provided to answer Part A and Part B for question 14.

There are two tanks at the aquarium, Tank A and Tank B. Each tank has two sections.

14. Part A

The volume of one section of Tank A is 24 cubic feet. The volume of the other section of Tank A is 96 cubic feet.

What is the total volume, in cubic feet, of Tank A?

A. 4

B. 72

C. 120

D. 2,304

Part B

Tank B has the same volume as Tank A.

The volume of one section of Tank B is 45 cubic feet. What is the volume, in cubic feet, of the other section of Tank B?

Enter your answer in the box.

15. Which expression is equal to $\frac{7}{8}$?

A. $8 - 7$

B. 7×8

C. $\frac{8}{7}$

D. $7 \div 8$

GO ON ▶

16. Kurt drew a rectangular maze with a length of $\frac{3}{4}$ foot and a width of $\frac{5}{12}$ foot. What is the area, in square feet, of Kurt's maze?
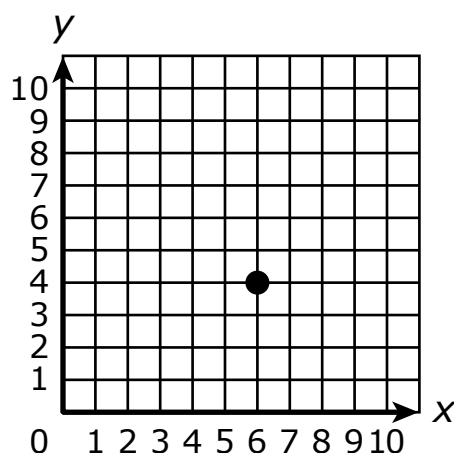
A. $\frac{15}{48}$

B. $\frac{8}{16}$

C. $\frac{20}{36}$

D. $\frac{15}{16}$

GO ON ▶

17. Select the **three** statements that correctly describe the point plotted on the coordinate plane.

A. The point is located at the ordered pair (4, 6).

B. The point is located at the ordered pair (6, 4).

C. The *x*-coordinate is 6 and the *y*-coordinate is 4.

D. The *x*-coordinate is 4 and the *y*-coordinate is 6.

E. The point is 4 units to the right of the origin on the *x*-axis and 6 units up from the origin on the *y*-axis.

F. The point is 6 units to the right of the origin on the *x*-axis and 4 units up from the origin on the *y*-axis.

GO ON ▶

18. An egg farm packages 264 total cartons of eggs each month. The farm has 3 different sizes of cartons.

- The small carton holds 8 eggs, and $\frac{1}{6}$ of the total cartons are small.

- The medium carton holds 12 eggs, and $\frac{2}{3}$ of the total cartons are medium.

- The large carton holds 18 eggs, and the rest of the total cartons are large.

Determine how many of each size of carton is needed each month. Then determine how many eggs are needed to fill the 264 cartons. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.

GO ON ▶

19. Part A

Select the **two** equations that are correct when the number 20 is entered in the box.

A. $\square \times 85 = 1{,}700$

B. $\square \div 4 = 50$

C. $1{,}500 \div \square = 75$

D. $120 \times 6 = \square$

E. $\square \times 50 = 100$

Part B

Select the **two** equations that are correct when the number 200 is entered in the box.

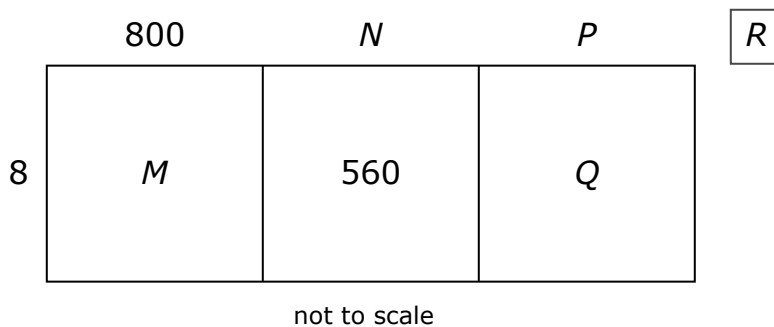**A.** $\square \times 85 = 17{,}000$

B. $\square \div 40 = 50$

C. $15{,}000 \div \square = 75$

D. $1{,}200 \times 6 = \square$

E. $\square \times 50 = 1{,}000$

GO ON ▶

20. A teacher drew an area model to find the value of 6,986 ÷ 8.

Teacher's Model for 6,986 ÷ 8

	800	N	P	R
8	M	560	Q	

not to scale

- Determine the number that each letter in the model represents and explain each of your answers.

- Write the quotient and remainder for 6,986 ÷ 8.

- Explain how to use multiplication to check that the quotient is correct. You may show your work in your explanation.

Enter your answers and your explanations in the space provided.

STOP

Unit 3

Directions:

Today, you will take Unit 3 of the Grade 5 Mathematics Practice Test. You will not be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

If you do not know the answer to a question, you may go on to the next question. If you finish early, you may review your answers and any questions you did not answer in this unit ONLY. Do not go past the stop sign.

GO ON ▶

21. Enter your answer in the box.

$0.35 \times 1.5 =$

GO ON ▶

22. Jim uses ribbon to make bookmarks. Jim has 9 feet of ribbon. He uses $\frac{1}{3}$ foot of ribbon to make each bookmark.

What is the total number of bookmarks Jim makes with all 9 feet of ribbon?

Enter your answer in the box.

Unit 3

GO ON ▶

Use the information provided to answer Part A and Part B for question 23.

Mia is playing several rounds of a word game. Each coordinate pair shows the number of a round and Mia's score for that round. She is keeping track of these coordinate pairs on a coordinate plane.

- Round 1: (1, 3)
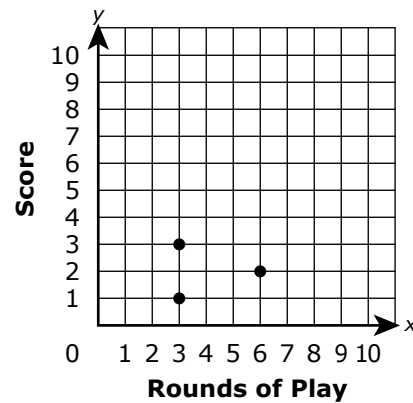- Round 2: (2, 6)
- Round 3: (3, 3)

23. Part A

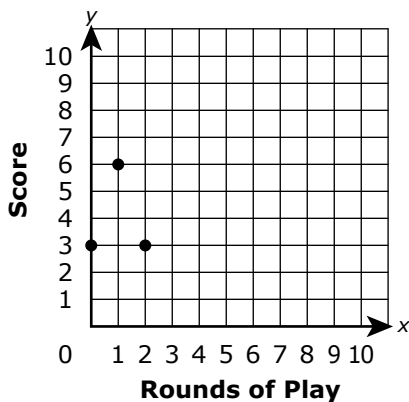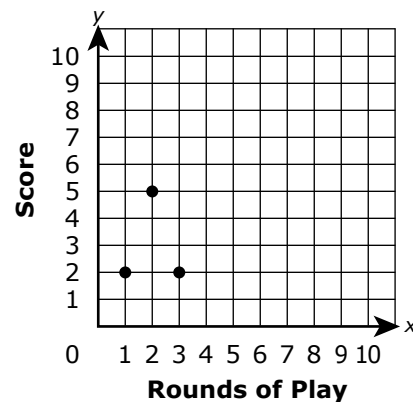Which coordinate plane correctly shows Mia's scores for the first three rounds of play?

A.

B.

C.

D.

GO ON ▶
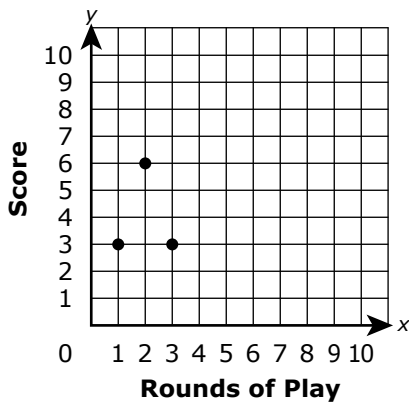
Part B

In round 4, Mia scores the same number of points as in rounds 2 and 3 combined.

What is the coordinate pair that represents Mia's score for round 4?

A. (4, 5)

B. (9, 4)

C. (5, 4)

D. (4, 9)

24. Enter your answer in the box.

$1,534 \div 26 =$

25. Which **two** conversions are correct?

A. 7 mm = 70 cm

B. 7 cm = 0.07 m

C. 7,000 m = 7 km

D. 0.7 cm = 70 mm

E. 7 m = 7,000 km

Unit 3

GO ON ▶

26. A cereal box has a height of 32 centimeters. It has a base with an area of 160 square centimeters.

What is the volume, in cubic centimeters, of the cereal box?

Enter your answer in the box.

27. On Saturday, Craig rode his bike $\frac{5}{8}$ of a mile. On Sunday, he rode his bike $\frac{1}{2}$ of a mile. Craig added $\frac{5}{8}$ and $\frac{1}{2}$ to find the total distance, in miles, he rode his bike on the two days. Craig said $\frac{5}{8} + \frac{1}{2} = \frac{6}{10}$ and plotted $\frac{6}{10}$ on this number line.
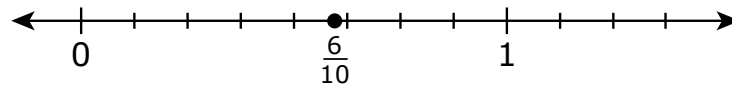
- Explain why Craig's answer is not reasonable.
- Find the total distance, in miles, Craig rode on his bike on Saturday and Sunday.
- Explain how to use the number line to show your answer is correct.

Enter your answer and explanations in the space provided.

GO ON ▶

28. Jen makes a rectangular banner. It is $\frac{3}{4}$ yard long and $\frac{1}{4}$ yard wide.

What is the area, in square yards, of the banner?

A. $\frac{3}{16}$

B. $\frac{3}{8}$

C. 1

D. 3

29. Which explanation about figures is correct?

A. All rhombuses are parallelograms. Parallelograms have 2 pairs of parallel sides.
Therefore, all rhombuses have 2 pairs of parallel sides.

B. All rhombuses are parallelograms. Parallelograms have exactly 1 pair of parallel sides.
Therefore, all rhombuses have exactly 1 pair of parallel sides.

C. Only some rhombuses are parallelograms. Parallelograms have 2 pairs of parallel sides.
Therefore, only some rhombuses have 2 pairs of parallel sides.

D. Only some rhombuses are parallelograms. Parallelograms have exactly 1 pair of parallel sides.
Therefore, only some rhombuses have exactly 1 pair of parallel sides.

Unit 3

GO ON ▶

30. Which **two** statements about rounding decimals are correct?

    A. The number 5.066 rounded to the nearest hundredth is 5.07.

    B. The number 5.074 rounded to the nearest hundredth is 5.08.

    C. The number 5.117 rounded to the nearest hundredth is 5.10.

    D. The number 5.108 rounded to the nearest hundredth is 5.11.

    E. The number 5.025 rounded to the nearest hundredth is 5.02.

Use the information provided to answer Part A and Part B for question 31.

Tom has a water tank that holds 5 gallons of water.

31. Part A

Tom uses water from a full tank to fill 6 bottles that each hold 16 ounces and a pitcher that holds $\frac{1}{2}$ gallon.

How many ounces of water are left in the water tank?

Enter your answer in the box.

Part B

Tom drinks 4 pints of water a day.

How many full tanks of water will he drink in 30 days?

Enter your answer in the box.

STOP